REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

10L

On this 12 day of MAY , 2015 ,Commissioners Court came on to be heard and reviewed the accompanying notice

of D. L. ELLIOTT ENTERPRISES, INC.

Job Location PEEK ROAD, MASON ROAD, CINCO RANCH BOULEVARD, GREENWAY VILLAGE, HIGHLAND KNOLLS DRIVE, WESTHEIMER

Dated 05/01/15 BOND NO. 58S206976 , Permit No. 84831 to make use of certain Fort Bend County property subject to, "A Revised Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, date the 3rd day of August, 1987, recorded in Volume _____ of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Article 1436a, Vernon's Texas Civil Statues. Upon Motion of Commissioner Meyers , seconded by Commissioner Patterson , duly put and carried, it is ORDERED, ADJUGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
   a. 48 hours in advance of construction start up, and
   b. When construction is completed and ready for final inspection

   Mail notices to: Permit Administrator
   Fort Bend County Engineering
   301 JACKSON STREET
   RICHMOND, Texas 77469
   281-633-7500
3. This permit expires one (1) year from date of permit if construction has not commenced.

By _____
County Engineer

By N/A
Drainage District Engineer/Manager

Presented to Commissioners Court and approved.
Recorded in Volume 5/12/15
Minutes of Commissioners Court.

Clerk of Commissioners Court
By _____
Deputy RENEE MICHULKA

(REVISED 10/16/13)

COUNTY OF FORT BEND

Engineering Department

301 JACKSON STREET
RICHMOND, Texas 77469

Johnny Ortega
Permit Administrator

Phone: (281) 633-7500

PERMIT APPLICATION REVIEW FORM FOR CABLE, CONDUIT, AND POLE LINE ACTIVITY IN FORT BEND COUNTY

PERMIT NO. 084831

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

X **(1) Complete Application Form.**

- X **a. Name of road, street, and/or drainage ditch affected.**
- X **b. Vicinity map showing course of direction.**
- X **c. Plans and specifications.**

X **(2) Bond:** _____
District Attorney, approval when applicable.

- _____ **Perpetual bond currently posted.**
  No. _____
  Amount _____
- X **Performance bond submitted.**
  No. 58S206976
  Amount $1,482,060.00
- _____ **Cashier's Check.**
  No. _____
  Amount _____

_____ **(3) Verbal permission given for emergencies, to start construction before approved in Commissioner's Court.**

_____ _____
Precinct Engineer Acknowledgment **Date**

_____ _____
Precinct Commissioner Acknowledgment **Date**

_____ **(4)** _____
Drainage District Approval when applicable

We have reviewed this project and agree it meets minimum requirements.

_____ 04/28/2015
Johnny Ortega CFM/ Permit Administrator **Date**
(REVISED 5/30/08)

NOTICE OF PROPOSED CABLE, CONDUIT AND/OR POLE LINE ACTIVITY IN, UNDER, ACROSS OR ALONG ROADS, STREETS, HIGHWAYS AND DRAINAGE DITCHES IN FORT BEND COUNTY

APPLICANT'S JOB NO.
PERMIT No. 84831 PCT. No. 3
BOND No. 5852-06976

Formal notice is hereby given that D.L. Elliott Enterprises, Inc. proposes to lay, construct, maintain and/or repair cable, conduit and/or pole line, in, under, across, or along roads, streets, highways and drainage ditches in Fort Bend County, as follows:

In, Under, or Across Roads and/or Drainage Ditches

Road or Ditch Name	Distance & Direction From Nearest Intersection	Length of Crossing	Type of Construction: Bored	Jacked	Driven	Cased
Peek Rd:	1,700 Feet South of Westheimer:	152:	✔			
: :Westheimer	1,700 Feet North of Peek Rd:	150:	✔			

Road or Ditch Name	Distance & Direction From Nearest Intersection	To	Distance
Mason Rd:	Intersection of Northmoor Drive South	To 500 FT South of Westheimer	: 2,600FT
Cinco Ranch Blvd:	100 Feet East of 99 Grand Parkway	:To Mason Rd	3,600 FT
Westheimer	400 Feet East of Peek Rd	To 300 Ft East of Fry Rd	3,000 FT:
Peek Rd:	Intersection of Highland knolls South	: :To Parkway LN	6,000 FT:
Greenway Village:	Intersection of Highland knolls South	:To Peek Rd	2,600 FT:
Highland Knolls	400 Feet East from 99(Grand Parkway)	:To Peek Rd	:1000 FT
Ditch VAI	1000 Feet south of Cinco Ranch Blvd	T0 1000 feet east of Peek Rd	3,200 FT:
Ditch VA1B	100 Feet East From Grand Parkway	To Ditch VA1B	800 FT:

General Description

Installation of Reclaimed Waterlines, along Mason Rd, Cinco Ranch Blvd, Westheimer, Peek Rd, Greenway Village, Highland Knolls, and Ditch VAI/ Ditch VA1B

The Location and description of the proposed installation and appurtenances is more fully shown on the attached detail drawings. The laying, construction, maintenance and/or repair of the proposed installation shall be subject to "A Revised Order Regulating the Laying, Construction, Maintenance and/or Repair of Cables, Conduits, and/or Pole Lines, In, Under, Across, or Along Roads, Streets, Highways and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by Commissioners Court of Fort Bend County, Texas, dated the 3rd. day of August, 1987, recorded in Volume 639 of the Minutes of the Commissioners Court of Fort Bend County, Texas.

Written notices are required: 1) 48 hours in advance of start of construction and
2) when construction is complete and ready for final inspection.

Mail to: Permit Administrator/Fort Bend County Engineering
301 Jackson Richmond, TX 77469.

Violation of Requirements shall constitute grounds for job shut down.

As of 9/1/2014, we will no longer mail out permits. Instead, we will email them.

Please complete:

Name:

Scott Ellefson

Email address:

Scott@dlelliott.com

COMPANY NAME: D.L. Elliott Enterprises, Inc.
AGENT AND/OR OWNER

NAME & TITLE: Scott Ellefson
(Signature)

DATE: 4/27/2015

ADDRESS: 11104 W Airport Blvd Ste. 101

Stafford (City) TX (State) 77493 (Zip)

TELEPHONE No. 281-575-7999
(Accessible 24hrs/day, 7 days/week)

PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD

AUTHORIZED

BOND NO 58S206976

THE STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND §

THAT WE, D. L. Elliott Enterprises, Inc. whose address is 11104 W. Airport, Ste 101, Stafford, TX 77477 Texas, hereinafter called the Principal, And Liberty Mutual Insurance Company, a Corporation existing under and by virtue of the laws of the state of Massachusetts and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at 450 Plymouth Road, Suite 400, Plymouth Meeting, PA 19462-8284, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is and Whose address is 13201 NW Freeway, Suite 810, Houston, TX 77040, hereinafter called the Surety, and held and firmly bound unto, Robert e. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, in the full sum of One Million Four Hundred Eight Two Thousand Sixty and No/100. Dollars ($ 1,482,060.00) current, lawful money of the United Stated of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend, and the State of Texas, under the jurisdiction of the Commissioners' Court of Fort Bend County, Texas, pursuant to the Commissioners' Court order adopted on the 1st day of December, A.D. 1980, recorded in Volume 13, of the Commissioners' Court Minutes of Fort Bend County, Texas, regulating same, which Commissioners' Court order is hereby referred to and made a part hereof for all purposes as though fully set out herein;

AND WHEREAS, the principal desires to provide Fort Bend County with a performance bond covering all such cable, conduit and/or pole line activity, commercial driveway and median openings or modifications;

NOW, THEREFORE, if the above bounden principal shall faithfully perform all its cable, conduit and/or pole line activity (including, but not limited to the laying, construction, maintenance and/or repair of cables, conduits and/or pole lines) in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend and State of Texas, under the jurisdiction of the Commissioners Court of Fort Bend County, Texas, pursuant to and in accordance with minimum requirements and conditions of the above mentioned Commissioners' Court order set forth and specified to be by said principal done and performed, at the time and in the manner therein specified, and shall pay over and make good and reimburse Fort Bend County, all loss and damages which Fort Bend County may sustain by reason of any failure or default on the part of said principal, then this obligation shall be null and void, otherwise to remain in full force and effect.

This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

It is understood that at any time Fort Bend County deems itself insecure under this bond, it may require further and/or additional bonds of the principal.

EXECUTED this 23rd day of April, 20 15.

D. L. Elliott Enterprises, Inc.
PRINCIPAL

BY

Liberty Mutual Insurance Company
SURETY

BY Dennis M. Descant, Jr. Attorney in Fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6833858

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Cheryl A. Sanders; Dennis M. Descant, Jr.; Jeffrey Lee Brady

all of the city of Houston, state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of January, 2015.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 12th day of January, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella , Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 23rd day of April, 2015.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

Important Notice

TO OBTAIN INFORMATION ABOUT THIS BOND OR TO MAKE A COMPLAINT:

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at:

800-252-3439

You may write the Texas Department of Insurance at:

P. O. Box 149104
Austin, TX 78714-9104

Your notice of claim against the attached bond may be given to the Surety Company that issued the bond by sending it to the following address:

Liberty Mutual Surety
Interchange Corporate Center
450 Plymouth Road, Suite 400
Plymouth Meeting, PA 19462-8284

You may contact the claim office by telephone at:

610-832-8240

Premium or Claim Disputes

If you have a dispute concerning a premium, you should contact the agent first. If you have a dispute concerning a claim, you should contact the company first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

This notice is for information purposes only and does not become a part of or a condition of the attached document. It is given to comply with Section 2253.048, Government Code, and Section 53.202, Property Code, Effective September 1, 2001

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

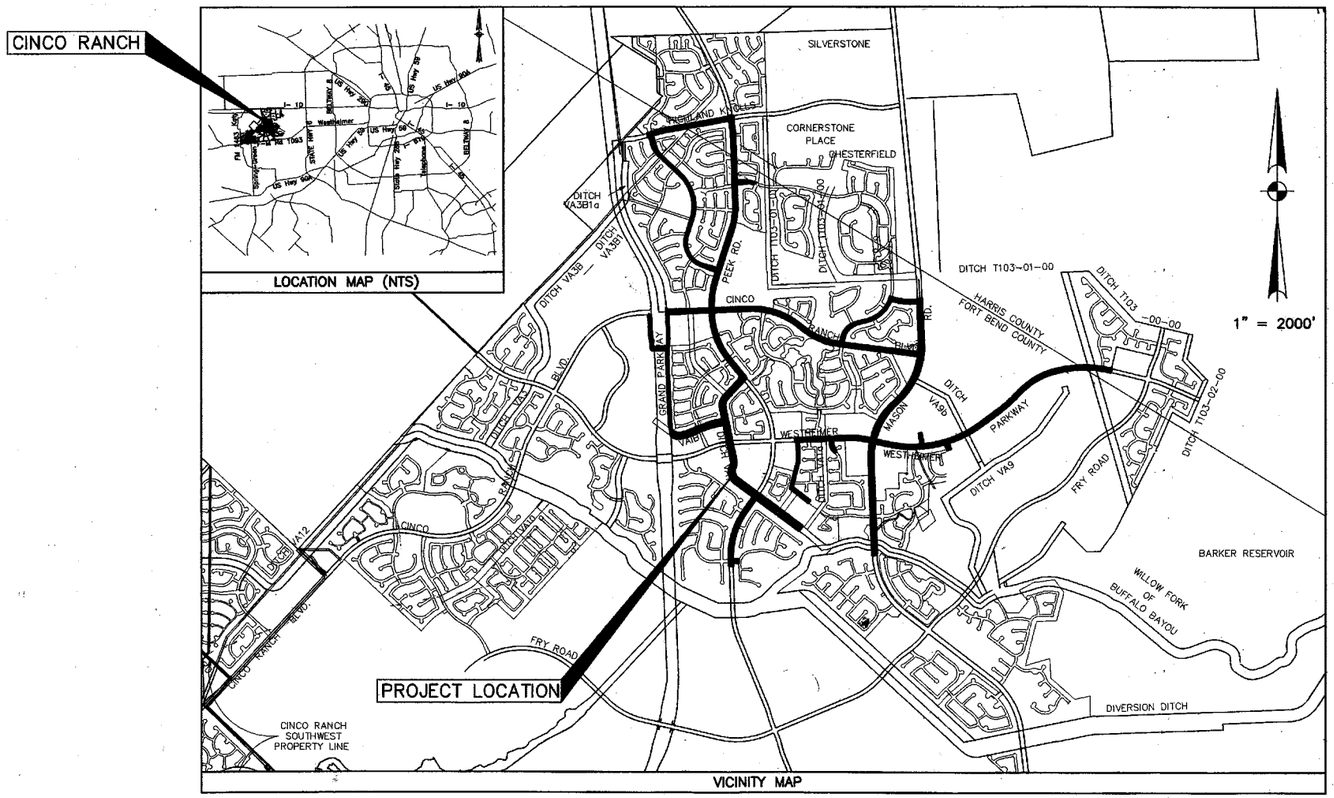
PLANS
FOR CONSTRUCTION OF PROPOSED

CINCO RANCH RECLAIMED WATER SYSTEM

FORT BEND COUNTY, HARRIS COUNTY**, TEXAS

A PROJECT FOR
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

GIMS: Majority Outside of GIMS, 4455a, 4455b, 4556c, LAMBERT MAP : 4455,4456,4457
KEY MAP REF: 485L,P,Q,R,U,V,Y,Z, ZIP CODE : 77494,77450



**DENOTES HARRIS COUNTY PORTION OF PROJECT

TCEQ RECLAIMED WATER AUTHORIZATION PERMIT NO. R13558-001

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
(713)223-4567 (in Houston)
(New Statewide Number Outside Houston)
1-800-545-6005

NO DRAINAGE PROPOSED IN THIS PLAN SET.

FIRM FLOOD INSURANCE RATE MAP
PANEL (100) OF (550)
MAP # 48157C0100J
BFE ELEVATION (ZONE X)

I, DAN EDWARDS, P.E., CERTIFY THAT THIS PROJECT IS ENTIRELY LOCATED OUTSIDE THE AREA WITH A 100 YEAR FLOOD FREQUENCY.

CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THIS PROJECT. 832-395-2511

5/19/14
FORT BEND COUNTY ENGINEERING DATE:
SIGNATURE VALID FOR ONE YEAR ONLY
Richard W. Stolleis, P.E. RWS 5/16/14
"PRIOR TO THE CONSTRUCTION OF THESE FACILITIES WITHIN OR BY THE DISTRICT, THE DISTRICT OR ITS ENGINEER WILL GIVE WRITTEN NOTICE BY REGISTERED OR CERTIFIED MAIL TO THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING CITY OF HOUSTON STATING THE DATE SUCH CONSTRUCTION WILL BE COMMENCED."

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

SURVEYED BY:	C of H LOG NO.: 2011-1040
FB NO.	ILMS NO.: 11109846

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	STREET & BRIDGE
WASTEWATER 4-8-14	TRAFFIC & TRANSPORTATION
STORM 4.15.14	STORM WATER QUALITY
FACILITIES RECLAIMED WATER 04/03/2014	
CITY ENGINEER	CITY DRAWING No. 52149
DIRECTOR OF PUBLIC WORKS AND ENGINEERING 4/9/14	

SHEET No: 01 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
A	10/16/14	GD	JE	Revised to Reflect County Comments

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5555 WEST LOOP SOUTH, SUITE 610
HOUSTON, TEXAS 77057-1899
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/19/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
COVER SHEET
100% SUBMITTAL

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 2000'

SHEET 01 OF 154

PATH/FILENAME: L:\CIN...\GIS\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, ...19, 2012 8:41:38 AM
PLOT DATE: Monday, Nov...19, 2012 8:57:28 AM
ANSI D - 19-Nov-12

**DENOTES HARRIS COUNTY PORTION OF PROJECT

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**66 OF 154	WESTHEIMER PARKWAY (105+50 TO 110+00)
VOID **~~67 OF 154~~	~~WESTHEIMER PARKWAY (110+00 TO 114+50)~~
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85 OF 154	PEEK ROAD (99+50 TO 104+00)
86 OF 154	PEEK ROAD (104+00 TO 108+50)
87 OF 154	PEEK ROAD (108+50 TO 113+00)
88 OF 154	PEEK ROAD (113+00 TO 117+50)
89 OF 154	PEEK ROAD (117+50 TO 122+00)
90 OF 154	PEEK ROAD (122+00 TO 126+50)
**91 OF 154	PEEK ROAD (126+50 TO 131+00)
**92 OF 154	PEEK ROAD (131+00 TO 135+50)
**93 OF 154	PEEK ROAD (135+50 TO 139+66)
94 OF 154	HIGHLAND KNOLLS DRIVE (1+00 TO 5+50)
95 OF 154	HIGHLAND KNOLLS DRIVE (5+50 TO 10+00)
**96 OF 154	HIGHLAND KNOLLS DRIVE (10+00 TO 14+50)
**97 OF 154	HIGHLAND KNOLLS DRIVE (14+50 TO 19+00)
**98 OF 154	HIGHLAND KNOLLS DRIVE (19+00 TO 23+00)
**99 OF 154	HIGHLAND KNOLLS DRIVE (23+00 TO 25+50)
100 OF 154	GREENWAY VILLAGE DRIVE (0+00 TO 4+50)
101 OF 154	GREENWAY VILLAGE DRIVE (4+50 TO 9+00)
102 OF 154	GREENWAY VILLAGE DRIVE (9+00 TO 13+50)

SHEET NO.	SHEET TITLE
103 OF 154	GREENWAY VILLAGE DRIVE (13+50 TO 18+00)
104 OF 154	GREENWAY VILLAGE DRIVE (18+00 TO 22+50)
105 OF 154	GREENWAY VILLAGE DRIVE (22+50 TO 27+00)
106 OF 154	GREENWAY VILLAGE DRIVE (27+00 TO 31+50)
107 OF 154	GREENWAY VILLAGE DRIVE (31+50 TO 36+00)
108 OF 154	GREENWAY VILLAGE DRIVE (36+00 TO 40+50)
109 OF 154	GREENWAY VILLAGE DRIVE (40+50 TO 45+00)
110 OF 154	GREENWAY VILLAGE DRIVE (45+00 TO 47+27)
111 OF 154	GRAND PARKWAY (0+00 TO 4+50)
112 OF 154	GRAND PARKWAY (4+50 TO 9+00)
113 OF 154	GRAND PARKWAY (9+00 TO 13+50)
114 OF 154	GRAND PARKWAY (13+50 TO 18+00)
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118 OF 154	GRAND PARKWAY (31+50 TO 34+68)
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120 OF 154	DITCH VAI (0+00 TO 10+00)
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122 OF 154	DITCH VAI (19+00 TO 29+00)
123 OF 154	DITCH VAI (29+00 TO 39+00)
124 OF 154	DITCH VAI (39+00 TO 49+00)
125 OF 154	DITCH VAI (49+00 TO 53+00)
126 OF 154	DITCH VA1B (0+00 TO 10+00)
127 OF 154	DITCH VA1B (10+00 TO 16+00)
128 OF 154	WWTP ACCESS ROAD (0+00 TO 10+00)
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133 OF 154	KINGSBRIAR LANE
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153 OF 154	STORM WATER POLLUTION PREVENTION PLAN DETAILS
**154 OF 154	HARRIS COUNTY EXPRESS REVIEW SHEET

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED_____
ASSISTANT TO THE COUNTY ENGINEER

DATE_____

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 10/16/14	TRAFFIC & TRANSPORTATION
WASTEWATER 10-16-14	STORM WATER QUALITY
STORM 10-16-14	FACILITIES 10-16-14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 02 OF 154

CITY PROJECT NUMBER 52149

NO.	DATE	MADE BY	APPROVED	DESCRIPTION REVISIONS
4	10/16/14	JE	Ruvyal Dasp #'s	

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

10/16/14
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

SHEET INDEX

PROJECT NO:	60194659 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 02A OF 154

PATH/FILENAME: C:\USERS\...\DESKTOP\LY-CV-DT.DWG
LAST UPDATE: Thursday, ...J, 2014 8:06:58 AM
PLOT DATE: Thursday, Oct...6, 2014 8:09:16 AM
ANSI D — 16-Oct-14

**DENOTES HARRIS COUNTY PORTION OF PROJECT

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119 OF 154	GRAND PARKWAY CROSSING
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** 154 OF 154	HARRIS COUNTY EXPRESS REVIEW SHEET

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 10-16-14	TRAFFIC & TRANSPORTATION 12.8.14
WASTEWATER	STORM WATER QUALITY 12-8-14
STORM 4.15.14	FACILITIES 10.16.14 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 02 OF 154

52149 CITY DRAWING NUMBER

1 10-16-14 MRN

1 10-16-14 GM

VOID

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			
	As-Built Set - Revised Page Numbers			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REGN. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

SHEET INDEX

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 02 OF 154

PATH/FILENAME: L:\CIN...\69\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, Nov 19, 2012 8:41:36 AM
PLOT DATE: Monday, Nov 19, 2012 8:57:29 AM
ANSI D — 19-Nov-12

GENERAL CONSTRUCTION NOTES

1. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID SECTION OF THE CONTRACT DOCUMENTS. INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.

2. ALIGNMENT, CENTERLINE CURVE DATA, AND STATIONING SHALL BE VERIFIED FROM APPROVED SUBDIVISION PLAT OR APPROVED PLOT.

3. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

4. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO WATER LINES, WASTEWATER COLLECTION SYSTEMS AND STORM SEWERS, DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING "STANDARD CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERETO, WITH NO COST TO THE CITY OF HOUSTON OR THE OWNER.

5. CONTRACTOR SHALL REMOVE EXISTING PLUGS AND CONNECT PROPOSED UTILITY LINES AS INDICATED ON PLANS.

6. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITY LINES AND SHALL NOTIFY THE FOLLOWING AGENCIES 48 HOURS PRIOR TO EXCAVATING NEAR EXISTING FACILITIES:

   A.) TEXAS ONE CALL SYSTEM AT 1-800-245-4545
   B.) LONE STAR NOTIFICATION CENTER AT 713-223-4567
   C.) TEXAS EXCAVATION SAFETY SYSTEM INC. AT 1-800-344-8377
   D.) DISTRICT OPERATOR – SEVERN TRENT AT 281-578-4242

7. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL REGULATIONS OF UTILITY COMPANIES CONCERNING SAFETY AND HEALTH PRACTICES.

8. WATER LINES, WASTEWATER COLLECTION SYSTEMS, AND DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING'S "STANDARD CONSTRUCTION SPECIFICATIONS" DATED JANUARY 2011 (LATEST REVISION) AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING" DATED JULY 2010 (LATEST REVISION), UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN IS CONSISTENT WITH THE MINIMUM STANDARDS ESTABLISHED IN THE "INFRASTRUCTURE DESIGN MANUAL" DATED JANUARY 2011.

9. FLOWLINE ELEVATIONS ARE BASED ON LENGTHS BETWEEN MANHOLES' VERTICAL CENTERLINE.

10. INCLUDE PRICE OF ALL BEDDING AND BACKFILL OF TYPE REQUIRED IN PRICE BID PER LINEAR FOOT OF PIPE.

11. ALL TRENCH EXCAVATION, BEDDING AND BACKFILL SHALL BE IN CONFORMANCE WITH CITY OF HOUSTON STANDARD SPECIFICATION 02317-EXCAVATION AND BACKFILL FOR UTILITIES, No. 02320-UTILITY BACKFILL MATERIAL, AND DETAIL Nos. 02317-02 THRU 02317-07 AS APPLICABLE.

12. ALL SEWER TRENCHES UNDER OR WITHIN ONE FOOT OF PROPOSED AND/OR FUTURE PAVEMENT OR CURB SHALL BE BACKFILLED WITH 1-1/2 SACKS OF CEMENT PER CUBIC YARD CEMENT-STABILIZED SAND TO A POINT ONE FOOT BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL SHALL BE MADE WITH COMPACTED SUITABLE MATERIAL.

13. AS AN ALTERNATIVE TO CEMENT-STABILIZED SAND BACKFILL FOR PIPES 54-INCH AND LARGER, FROM 1-FOOT ABOVE THE TOP OF THE PIPE TO THE BOTTOM OF THE SUBGRADE, CONTRACTOR MAY BACKFILL WITH SUITABLE MATERIAL, PROVIDED THE BACKFILL MATERIAL IS PLACED IN 8-INCH LOOSE LIFTS AND MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY. TESTS SHALL BE TAKEN AT 100-FOOT INTERVALS ON EACH LIFT. BEDDING AND BACKFILL TO 1-FOOT ABOVE THE TOP OF THE PIPE SHALL BE CEMENT- STABILIZED SAND.

14. BASIC CONSTRUCTION PRODUCTS AS DESIGNATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON PLANS, SHALL BE FURNISHED BY A MANUFACTURER OR SUPPLIER PRE-APPROVED BY THE GOVERNING REGULATORY ENTITIES FOR THIS PROJECT. THOSE PRODUCTS NOT APPEARING ON A PRE-APPROVED PRODUCTS LIST SHALL BE IN FULL COMPLIANCE WITH APPLICABLE TECHNICAL SPECIFICATION AND/OR STANDARD CONSTRUCTION DETAILS OF THAT REGULATORY ENTITY OR IN THE CASE OF A SPECIAL PROVISION, THAT OF THE ENGINEER.

15. ALL MANHOLES IN UNPAVED AREAS SHALL BE ENCAPSULATED WITH CEMENT-STABILIZED SAND A MINIMUM OF 1-FOOT BELOW BASE AND A MINIMUM OF 1- FOOT AROUND WALL UP TO 1-FOOT ABOVE THE HIGHEST ADJOINING PIPE STRUCTURE. THE REMAINING BACKFILL SHALL BE MADE WITH SELECT FILL MATERIAL PLACED IN UNIFORM 8-INCH MAXIMUM LOOSE LIFTS COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM STANDARD PROCTOR DENSITY. ALL MANHOLES IN PAVED AREAS SHALL BE ENCAPSULATED WITH CEMENT- STABILIZED SAND A MINIMUM OF 1-FOOT BELOW BASE AND A MINIMUM OF 1-FOOT AROUND WALL AND UP TO WITHIN 1-FOOT OF PAVEMENT SUBGRADE. INCLUDE PRICE OF ALL BEDDING AND BACKFILL OF TYPE REQUIRED IN PRICE OF MANHOLE.

16. WHEN TRENCH CONDITION WARRANTS THE USE OF DEWATERING SYSTEMS, THEIR USE SHALL BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE OWNER.

17. OWNER WILL FURNISH INITIAL LABORATORY TESTS. SUBSEQUENT TESTING DUE TO FAILED DENSITIES SHALL BE AT CONTRACTOR'S EXPENSE. A COPY OF ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.

18. CONTRACTOR SHALL REMOVE ALL MUD, DIRT AND DEBRIS DEPOSITED OR DROPPED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY. MATERIAL THAT IS HAZARDOUS TO TRAFFIC SHALL BE REMOVED IMMEDIATELY.

19. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

20. THESE PLANS PREPARED BY AECOM TECHNICAL SERVICES, INC. DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE AECOM TECHNICAL SERVICES, INC. REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEM(S).

21. CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF OWNER.

22. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES OR RAILROADS AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL OBTAIN ALL CONSTRUCTION PERMITS PRIOR TO STARTING CONSTRUCTION.

23. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY FORT BEND AND HARRIS COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN COUNTY ROAD RIGHTS-OF-WAY, IF APPLICABLE.

24. THE CONTRACTOR(S) SHALL NOTIFY HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT- ARCHITECTURE AND ENGINEERING DIVISION- PERMIT OFFICE TWENTY-FOUR (24) HOURS IN ADVANCE OF COMMENCING UTILITY AND/OR PAVING CONSTRUCTION AT 713-316-3661 AND WRITTEN NOTIFICATION FORTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION AT 10555 NORTHWEST FREEWAY, SUITE 120, HOUSTON, TEXAS 77092.

25. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY REGULATION OF HARRIS COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT PRIOR TO STARTING CONSTRUCTION.

26. FORT BEND COUNTY ENGINEERING DEPARTMENT SHALL BE NOTIFIED BY TELEPHONE (281) 342-3039 BY THE CONTRACTOR 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION, FOLLOWED BY A LETTER OF CONFIRMATION. THE CONTRACTOR SHALL ALSO NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT BY TELEPHONE 24 HOURS IN ADVANCE OF SUBGRADE PREPARATION AND CONCRETE POURS. A COPY OF THE WRITTEN NOTIFICATION SHALL BE SENT TO THE ENGINEER.

27. CONTRACTOR SHALL NOT REMOVE ANY TREES, MONUMENTS, LANDSCAPE BEDS OR PLANTERS WITHOUT THE CONSENT OF OWNER. CONTRACTOR IS TO PROTECT FROM DAMAGE DUE TO CONSTRUCTION ACTIVITY, CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT DUE TO ANY DAMAGES.

28. CONTRACTOR SHALL SOD ALL AREAS DISTURBED DURING CONSTRUCTION.

29. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING IRRIGATION LINES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSES.

30. CONTRACTOR TO COORDINATE ANY DISRUPTION TO EXISTING IRRIGATION SERVICE WITH OWNER. REPLACE VALVES OR REPAIR LINES AT NO SEPARATE PAY.

29. CONTRACTOR SHALL RESTORE EXISTING TOPOGRAPHIC FEATURES TO ORIGINAL OR BETTER CONDITION.

30. CONTRACTOR TO SECURE THE JOB SITE AT ALL TIMES.

31. CONTRACTOR IS TO PROVIDE SIGNAGE INDICATING SIDEWALK CLOSURE.

32. MODIFICATIONS TO OR ADDITIONAL PIT LOCATIONS TO BE APPROVED BY OWNER.

33. WHEN CONTRACTOR IS CONSTRUCTING AROUND EXISTING TREES, CONTRACTOR IS TO USE 10-INCHES TO 12-INCHES OF MULCH AROUND AND OUT TO EXISTING TREE DRIP LINE WITH WOODEN MATS FOR HEAVY EQUIPMENT TO TRAVEL AND WORK ON. ANY DAMAGE TO EXISTING TREES FROM CONSTRUCTION WILL BE CONTRACTORS RESPONSIBILITY TO REPLACE ANY DAMAGED TREES TO ORIGINAL OR BETTER CONDITIONS WITH NO COST TO OWNER.

34. CONTRACTOR TO COORDINATE CONSTRUCTION HOURS WITH OWNER IN VICINITY OF ANY COMMERCIAL BUSINESSES OR SCHOOLS TO MINIMIZE DISRUPTIONS DURING OPERATING HOURS.

RECLAIMED WATER LINE CONSTRUCTION NOTES

1. ALLOWABLE RECLAIMED WATER LINE PIPE MATERIAL:

   A. POLYVINYL CHLORIDE PIPE, PURPLE IN COLOR. CLASS 150. DR 18 (AWWA C900 FOR 4-INCH THRU 12-INCH. AND CLASS 235. DR 18 (AWWA C905 FOR 16-INCH). BOTH WITH GASKETED PUSH-ON JOINTS (ASTM D3139) AND ELASTOMERIC GASKETS (ASTM F477). 18-INCH AND LARGER DUCTILE IRON PIPE. 150 PSI RATED WATER WORKING PRESSURE (AWWA C151).

   B. DUCTILE IRON PIPE. 150 PSI RATED WATER WORKING PRESSURE (AWWA C151). DOUBLE WRAPPED IN 8-MIL POLYETHYLENE IN ACCORDANCE WITH HE ABOVE STATED CITY OF HOUSTON SPECIFICATIONS. WITH GASKETED PUSH-ON JOINTS (AWWA C111).

   C. STEEL PIPE FOR STEEL RECLAIMED WATER LINE SECTIONS SHALL BE IN ACCORDANCE WITH THE ABOVE STATED CITY OF HOUSTON SPECIFICATIONS. INTERNAL COATINGS SHALL BE IN ACCORDANCE WITH (AWWA C210).

   D. ALL RECLAIMED WATER LINE FITTINGS (EXCEPT FITTINGS FOR STEEL PIPE. SHALL BE PUSH-ON DUCTILE IRON COMPACT FITTINGS (ALL BELL CLASS 350 (AWWA C153). UNLESS OTHERWISE NOTED ON PLANS. DOUBLE WRAPPED IN 8-MIL POLYETHYLENE IN ACCORDANCE WITH THE ABOVE STATED CITY OF HOUSTON SPECIFICATIONS. PRICE OF FITTINGS SHALL BE INCLUDED IN UNIT PRICE BID PER LINEAR FOOT FOR WATER LINE PIPE IN APPROPRIATE SIZES.

2. ALL NEWLY INSTALLED PIPES COATING AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF STANDARDS AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

3. ALL RECLAIMED WATER LINES SHALL HAVE BANK-RUN SAND EMBEDMENT IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATION 02317-EXCAVATION AND BACKFILL FOR UTILITIES AND 02320-UTILITY BACKFILL MATERIALS.

4. RECLAIMED WATER LINE TRENCHES UNDER OR WITHIN 1-FOOT OF PROPOSED AND/OR FUTURE PAVEMENT OR CURB SHALL BE BACKFILLED WITH 1-1/2 SACKS OF CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND TO A POINT 1-FOOT BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL SHALL BE MADE WITH COMPACTED SUITABLE MATERIAL.

5. CONTRACTOR SHALL ALLOW A MINIMUM OF 1-FOOT VERTICAL AND 4-FEET HORIZONTAL CLEARANCE BETWEEN PROPOSED RECLAIMED WATER LINES AND OTHER EXISTING OR PROPOSED UTILITIES. FOR SEPARATION BETWEEN RECLAIMED WATER LINE AND SANITARY SEWER SEE "SANITARY SEWER CONSTRUCTION NOTES".

6. WHEN A RECLAIMED WATER LINE IS PLACED NEAR A SANITARY SEWER MANHOLE. IT SHALL HAVE A MINIMUM OF 9-FEET WALL TO WALL SEPARATION. WHERE A WATER LINE PARALLELS A SANITARY SEWER. 9-FEET OF SEPARATION WILL BE MAINTAINED IN ALL DIRECTIONS. IF THE 9-FEET SEPARATION CANNOT BE ACHIEVED. BOTH THE SEWER PIPE AND JOINTS SHALL HAVE A PRESSURE RATING OF 150 PSI AND MANHOLES SHALL BE WATER TIGHT. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF 2-FEET BETWEEN OUTSIDE DIAMETERS AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF 4-FEET BETWEEN OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATER LINE.

7. 4-INCH THRU 12-INCH RECLAIMED WATER LINES SHALL HAVE A NORMAL COVER OF 4-FEET BELOW FINISHED TOP OF CURB GRADE. 16-INCH THRU 20-INCH RECLAIMED WATER LINES SHALL HAVE A NORMAL COVER OF 5-FEET BELOW FINISHED TOP OF CURB GRADE. VARY FLOWLINE UNIFORMLY FROM DEPTH AND LOCATION AS SHOWN ON PLANS.

8. RECLAIMED WATER LINE STUBS. WHEN PROVIDED FOR FUTURE EXTENSIONS SHALL HAVE AT LEAST ONE JOINT OF PIPE BEYOND VALVE AND COMPLY WITH CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AN ENGINEERING MINIMUM DESIGN STANDARDS ESTABLISHED IN THE LATEST ISSUE OF "INFRASTRUCTURE DESIGN MANUAL. UNLESS SHOWN ON PLANS OTHERWISE.

9. CONTRACTOR SHALL INSTALL RESTRAINT JOINT PIPE, FITTING, AND RESTRAINT DEVICES AS REQUIRED FOR CONSTRUCTION OF RECLAIMED WATER LINE.

10. VALVES SHALL BE EQUIPPED WITH OPERATING NUT EXTENSIONS TO WITHIN FOUR FEET OF NATURAL GROUND.

12. FLUSHING VALVES SHALL BE MUELLER SUPER CENTURION 250-A423, CENTERLINE OF STREAMER NOZZLE TO BE A MINIMUM OF 18-INCHES FROM NATURAL GROUND.

13. ALL FLUSHING VALVES THAT ARE DELIVERED EXHIBITING RUST AND/OR THE COATING IS DAMAGED DURING INSTALLATION SHALL BE SURFACE PREPPED AND RECOATED AS PER CITY OF HOUSTON SPECIFICATION SECTION 02520 (NO SEPARATE PAY). (CHAINS TO BE REPLACED IF RUSTED).

SANITARY SEWER CONSTRUCTION NOTES

4. PROTECTION REQUIREMENTS AT WATER LINE-SANITARY SEWER CROSSINGS.

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DIVISION VII – Water Line Requirements

TABLE 7.3
PROTECTION REQUIREMENTS AT
WATER LINE (WL) – SANITARY SEWER (SS) CROSSINGS

	PROPOSED WATER LINE				SANITARY SEWER			
	OVER		UNDER		OVER		UNDER	
	EXIST SS	PROP SS	EXIST SS	PROP SS	EXIST WL	PROP WL	EXIST WL	PROP WL
MINIMUM 2 FEET VERTICAL CLEARANCE	✓1	✓1	✓	✓	NOT ALLOWED	✓	✓1	✓1
PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS	✓	✓	✓	✓	NOT ALLOWED	✓		✓
PLACE 1 FULL SECTION (MIN 18 FT) OF SS CENTERED AT WL CROSSING, PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL		✓			NOT ALLOWED		✓	✓
REPLACE 1 FULL SECTION OF EXISTING SS WITH PRESSURE-RATED DIP OR PRESSURE RATED PVC PIPE WITH ADAPTERS AND RESTRAINED JOINTS CENTERED AT WL CROSSING	✓2,3		✓3		NOT ALLOWED			
PROVIDE DIP FOR SMALL DIAMETER WL (LESS THAN 24 INCHES). PVC PIPE IS ONLY ALLOWED IF ENCASED AS PER TAC § 290.44, AND USE RESTRAINED JOINTS FOR BOTH DIP AND PVC PIPE			✓	✓	NOT ALLOWED	✓		
EMBED SS WITH CSS FOR THE TOTAL LENGTH OF 1 PIPE SEGMENT PLUS 1 FOOT BEYOND THE JOINTS ON EACH	✓2,3	✓4	✓3	✓4	NOT ALLOWED	✓4	✓4	✓4
PLACE 1 FULL SECTION (MIN 18 ft) OF MIN 150psi SS CENTERED AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 ft HORIZONTALLY FROM CENTERLINE OF WL OR ENCASE IN A JOINT OF 150psi PRESSURE PIPE (MIN 18 ft) TWO NOMINAL SIZES LARGER WITH SPACERS AT 5 ft INTERVAL				✓	NOT ALLOWED	✓		

1. MINIMUM CLEARANCE IS 2 FEET FOR NON-PRESSURE RATED SS AND 12 INCHES FOR PRESSURE RATED SS (WITH AT LEAST 150 PSI PRESSURE RATING).
2. REQUIRED IF EXISTING SS IS DISTURBED AND/OR THERE IS EVIDENCE OF LEAKAGE.
3. NOT REQUIRED FOR AUGERED WL UNLESS THERE IS EVIDENCE OF LEAKAGE; COMPLETELY FILL AUGERED HOLE WITH BENTONITE/CLAY MIXTURE.
4. NOT REQUIRED FOR AUGERED SS; COMPLETELY FILL AUGERED HOLE WITH BENTONITE/CLAY MIXTURE.

NOTE:
a. BOTH WATER LINE AND WASTEWATER MAIN OR LATERAL MUST PASS A PRESSURE AND LEAKAGE TEST AS SPECIFIED IN AWWA C600 STANDARDS.
b. SANITARY SEWERS (SS) IS APPLICABLE TO BOTH GRAVITY SANITARY SEWERS AND FORCE MAINS.

PAVING CONSTRUCTION NOTES (FT BEND COUNTY)

1. CONCRETE PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY RULES, REGULATIONS AND REQUIREMENTS RELATING TO APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE, ADOPTED AUGUST 2002 WITH LATEST AMENDMENTS OR THERETO. ALL PAVEMENT CONSTRUCTION TO BE IN ACCORDANCE WITH STANDARD PAVING DETAILS AS SHOWN IN PLANS.

2. ALL ROAD WIDTHS, CURB RADII AND CURVE ALIGNMENT SHOWN INDICATES BACK OF CURB. TC INDICATES TOP OF CURB ELEVATION AND TP INDICATES TOP OF PAVEMENT ELEVATION.

3. CURB RADII AT STREET INTERSECTION TO BE 24.50-FEET TO BACK OF CURB WITH A MINIMUM 1-PERCENT GRADE AND 6-INCHES IN HEIGHT, UNLESS OTHERWISE NOTED. FOR MACHINE-LAID CURB, OMIT MORTAR FINISH, BUT MAINTAIN SAME OUTSIDE DIMENSIONS.

4. CONTRACTOR SHALL USE CONTINUOUS LONGITUDINAL REINFORCING BAR FOR 4-INCH BY 12-INCH CURB, AND 6-INCH CURB.

5. SUBGRADE AND CONCRETE LABORATORY TESTS SHALL BE PROVIDED TO FORT BEND COUNTY ENGINEERING DEPARTMENT.

6. SUBGRADE STABILIZATION SHALL BE LIME AND/OR LIME-FLY ASH MIXTURE AT A RATE AS ESTABLISHED BY LABORATORY TESTING OF SUBGRADE MATERIAL.

7. WHERE PROPOSED PAVEMENT IS TO MATCH EXISTING PAVEMENT, EXISTING RE-BARS OR DOWELS PROJECTING FROM EXISTING PAVEMENT TO BE CLEANED AND TIED INTO PROPOSED PAVEMENT. IF NO REINFORCING STEEL EXIST, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS, 24-INCHES LONG, DRILLED AND EMBEDDED 8-INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL AT 18-INCHES CENTER TO CENTER. REMOVE EXISTING BARRICADES.

8. WHERE PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT, EXTEND RE-BARS 15-INCHES, COAT WITH ASPHALT AND WRAP WITH BURLAP. AT EXPANSION JOINTS. EXTEND DOWELS 9-INCHES, COAT AND WRAP SAME AS CONSTRUCTION JOINTS.

9. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADII RETURNS AND AT MAXIMUM SPACING OF 80-FOOT INTERVALS. LOAD TRANSMISSION UNITS TO BE SPACED AT 12-INCHES ON CENTER. DO NOT LOCATE TRANSVERSE EXPANSION JOINTS WITHIN DEPRESSIONS FOR INLETS.

10. LONGITUDINAL JOINTS SHALL BE INSTALLED AS SHOWN ON PAVEMENT STANDARD DETAIL SHEET. MAXIMUM SPACING BETWEEN JOINTS NOT TO EXCEED 15-FEET. DEFORMED METAL STRIP SHALL BE INSTALLED 1/4-INCH BELOW FINISHED TOP OF PAVEMENT.

11. GUIDELINES SET FORTH IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE OBSERVED. SIGNS SHALL BE INSTALLED AS SHOWN ON PAVING AND TRAFFIC CONTROL LAYOUT.

12. STREET NAME SIGNS SHALL BE STANDARD CITY OF HOUSTON SIGNS AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL VERIFY STREET NAMES WITH APPROVED PLAT.

13. ALL PAINT STRIPING SHALL BE THERMAL REFLECTORIZED STRIPING. PRIOR TO PLACEMENT OF THERMAL STRIPING, PAVEMENT SHALL BE:
(1) SURFACE PREPPED IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 678.
(2) PRIMED AND SEALED IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 666.

14. ONE BLUE DOUBLE REFLECTORIZED MARKER SHALL BE INSTALLED AT EACH FLUSHING VALVE LOCATION. PLACE MARKER 6-INCHES OFF CENTERLINE OF PAVEMENT ON FLUSHING VALVE SIDE.

15. ALL PROPOSED BARRICADES, WHEN INDICATED ON PLANS, TO BE CITY OF HOUSTON TYPE III AS PER CITY OF HOUSTON STANDARD CONSTRUCTION DETAILS 01580-01-BARRICADE STANDARD. BARRICADES TO BE PLACED 5-FEET FROM END OF PROPOSED PAVEMENT AND CENTERED ON CENTERLINE OF PAVEMENT.

16. WHEELCHAIR RAMPS ARE INCLUDED IN THIS CONTRACT. WHEELCHAIR RAMPS ARE TO BE COLORED (COLOR AS SPECIFIED BY OWNER, CONCRETE DRIVEWAYS AND SIDEWALKS ARE NOT INCLUDED ON THIS CONTRACT, UNLESS OTHERWISE NOTED ON PLANS.

17. ALL SAW CUTS MADE INTO EXISTING CONCRETE PAVEMENT SHALL BE CUT COMPLETELY THROUGH TO THE SUBGRADE.

18. INTERVALS OF FORM STAKING NOT TO EXCEED FOUR (4) HORIZONTAL FEET.

19. PRIOR TO APPLYING BURLAP FINISH, CONTRACTOR TO CHECK FALL OF PAVEMENT WITH HAND LEVEL. FALL OF PAVEMENT NOT TO EXCEED SPECIFIED TOLERANCES. (ie... 1/8 INCH IN TEN (10) FEET.)

20. CONTRACTOR TO SUBMIT, DURING THE INITIAL SUBMITTAL PROCESS, A CERTIFICATION CERTIFICATE CERTIFYING THAT THE TRAFFIC CONTROL SIGN POSTS MEET THE FORT BEND COUNTY THICKNESS REQUIREMENTS OF FOURTEEN (14) GAUGE.

21. ALL PROPOSED MAJOR THOROUGHFARE INTERSECTIONS WITH TURN LANE AND STOP SIGNS, PLACEMENT OF STOP AHEAD SIGN (W3-1) SHALL BE PLACED AT BEGINNING OF TURN LANE. IF NO TURN LANE AT I NTERSECTION IS PROPOSED, PLACEMENT OF STOP AHEAD SIGN (W3-1) WILL BE AS DIRECTED BY ENGINEER.

22. STREET NAME SIGN BLADES TO BE 6" INSIDE RESIDENTIAL SUBDIVISION AND 9" AT MAJOR THOROUGHFARES.

23. PROP WHEEL CHAIR RAMP JOINTS TO BE CAULKED WITH 2-PART SYSTEM (LIMESTONE) BY BUILDERS SUPPLY OR SHEPLERS.

24. A ONE YEAR WARRANTY INSPECTION WILL BE HELD SIX (6) WEEKS PRIOR TO THE DATE OF COUNTY ACCEPTANCE.

SPECIAL CONSTRUCTION NOTES

1. SUITABLE SURPLUS EXCAVATED MATERIAL FROM CONSTRUCTION OF WATER LINE AND SEWERS SHALL BE:
( ) SPREAD AND COMPACTED IN MAXIMUM 8-LOOSE LIFTS TO 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH LOT GRADING LAYOUT.
(X) HAULED OFFSITE AT CONTRACTOR'S EXPENSE. NO SEPARATE PAY, INCLUDING COST OF SAME TO WHICH IT IS A COMPONENT PART.
( ) HAULED TO SPOIL SITE AS SHOWN ON PLANS.

2. CONTRACTOR MAY BE REQUIRED TO MOW AND/OR RAKE ROW PRIOR TO INSTALLATION OF WATER, SANITARY, AND DRAINAGE PIPES. PAYMENT, WHEN REQUIRED, TO BE PER APPROPRIATE BID ITEM(S) IN THE PROPOSAL. DO NOT INCLUDE COST PER LINEAR FOOT OF PIPE INSTALLED.

3. CONTRACTOR MAY BE REQUIRED TO EITHER STRIP OR DISC ROW AS REQUESTED BY OWNER. PAYMENT, WHEN REQUIRED, TO BE PER BID ITEM(S) IN PROPOSAL. DO NOT INCLUDE COST PER LINEAR FOOT OF PIPE INSTALLED. CONTRACTOR IS ADVISED THAT WHEN ROW STRIPPING IS REQUIRED THAT STRIPPING BE PLACED WITHIN PLATTED AREA AT A LOCATION TO BE DETERMINED BY OWNER. CONTRACTOR IS ADVISED THAT WHEN FILL AREA STRIPPING IS REQUIRED THAT STRIPPINGS ARE TO BE PLACED IN AN AREA TO BE DETERMINED BY OWNER.

4. CONTRACTOR IS RESPONSIBLE FOR FILING CONTRACTORS NOI AND NOT. INSPECTIONS SHALL BE A MINIMUM OF EVERY 14 CALENDAR DAYS OR AFTER 0.5-INCHES OF RAINFALL, WHICHEVER COMES FIRST. INSPECTOR REPORTS TO BE TURNED IN WITH MONTHLY PROGRESS PAYMENT REQUEST.CHAMPIONS HYDRO-LAWN (281-445-2614) MUST BE NOTIFIED IN WRITING AT LEAST 48 HOURS IN ADVANCE OF ANY TURF ESTABLISHMENT IN ANY CINCO SOUTHWEST MUD NO. 1 RIGHTS-OF-WAY.

5. THERE MAY BE EXISTING IRRIGATION, SIDEWALKS AND/OR LANDSCAPING INSTALLED SINCE THE PREPARATION OF THESE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING IRRIGATION, SIDEWALKS AND/OR LANDSCAPING PRIOR TO BID. UNLESS THERE IS A BID ITEM PROVIDED, THERE WILL BE NO SEPARATE PAY FOR REPAIR OR REPLACEMENT OF EXISTING IRRIGATION, SIDEWALKS AND/OR LANDSCAPING, INCLUDE COST OF SAME TO WHICH IT IS A COMPONENT PART. ANY REPAIR OR REPLACEMENT OF EXISTING IRRIGATION SYSTEM AND LANDSCAPING MUST BE TO EQUAL OR BETTER CONDITIONS AND BE INSPECTED AND APPROVED BY JON STANZ WITH TRUE GREEN AT 713-784-5555 PRIOR TO BACKFILLING.

6. ALL EXISTING BARRICADES NOT RELOCATED SHALL BE DISPOSED OF OFFSITE. NO SEPARATE PAY.

7. CONTRACTOR SHALL SUBMIT A COPY OF REQUIRED STORM WATER POLLUTION PLAN INSPECTION REPORTS WITH EACH PAYMENT REQUEST, FAILURE TO DO SO MAY RESULT IN NON PAYMENT.

8. SHOULD YOU WISH TO UTILIZE THEIR SERVICES CONTACT TRUE GREEN AT 713-784-5555 (JON STANZ) FOR DISABLING AND RESTORING IRRIGATION SYSTEM. (NO SEPARATE PAY)

9. SHOULD YOU NOT WISH TO UTILIZE TRUE GREEN'S SERVICES, PLEASE HAVE YOUR IRRIGATION SPECIALIST CONTACT TRUE GREEN FOR INSPECTION PRIOR TO BACKFILLING OF ALL RESTORED IRRIGATION INSTALLATION(S).

FEMA FLOODPLAIN NOTE

1. ACCORDING TO EFFECTIVE FEMA MAP 48201C0505-L DATED JUNE 18, 2007, THIS SITE LIES WITHIN UNSHADED-X ZONE.

NOTE: "NOTIFICATIONS ISSUED BY HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT – ARCHITECTURE AND ENGINEERING DIVISION – PERMIT OFFICE – REQUIRED PRIOR TO CONSTRUCTION OF UTILITIES OR LEFT TURN LANES WITHIN HARRIS COUNTY AND HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHTS-OF-WAY." CONTACT HARRIS COUNTY PERMIT OFFICE (713)956-3033

PAVING CONSTRUCTION NOTES (HARRIS COUNTY)

1. CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH "THE REGULATIONS OF HARRIS COUNTY, TEXAS FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE" AND/OR AMENDMENTS OF THE SAME. ALL PAVEMENT CONSTRUCTION TO BE IN ACCORDANCE WITH HARRIS COUNTY DETAIL " SUBDIVISION STANDARD PAVING DETAILS", ADOPTED APRIL 30, 2002 WITH LATEST AMENDMENTS OR THERETO.

2. ALL ROAD WIDTHS, CURB RADII AND CURVE ALIGNMENT SHOWN INDICATES BACK OF CURB. TC INDICATES TOP OF CURB ELEVATION AND TP INDICATES TOP OF PAVEMENT ELEVATION.

3. CURB RADII AT STREET INTERSECTION TO BE 24.50-FEET TO BACK OF CURB WITH A MINIMUM 1-PERCENT GRADE, UNLESS OTHERWISE NOTED. FOR MACHINE-LAID CURB, OMIT MORTAR FINISH, BUT MAINTAIN SAME OUTSIDE DIMENSIONS.

4. CONTRACTOR SHALL USE CONTINUOUS LONGITUDINAL REINFORCING BAR FOR 6-INCH CURB, AND 4-INCH BY 12-INCH CURB.

5. ALL CONCRETE PAVEMENT SHALL BE 5.0-SACK MIX. 3000 PIS CONCRETE. REINFORCING STEEL TO CONFORM TO ASTM A615, GRADE 60. PROVIDE MINIMUM 30 BAR DIAMETER LAPS.

6. SUBGRADE STABILIZATION SHALL BE LIME AND/OR LIME-FLY ASH MIXTURE AT A RATE AS ESTABLISHED BY LABORATORY TESTING OF SUBGRADE MATERIAL. SUBGRADE STABILIZATION SHALL EXTEND 24-INCHES FROM BACK OF CURB.

7. WHERE PROPOSED PAVEMENT IS TO MATCH EXISTING PAVEMENT, EXISTING REBARS OR DOWELS PROJECTING FROM EXISTING PAVEMENT TO BE CLEANED AND TIED INTO PROPOSED PAVEMENT. IF NO REINFORCING STEEL EXIST, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS, 24-INCHES LONG, DRILLED AND EMBEDDED 8-INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL AT 18-INCHES CENTER TO CENTER. REMOVE EXISTING BARRICADES.

8. WHERE PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT, EXTEND RE-BARSB. 15-INCHES, COAT WITH ASPHALT AND WRAP WITH BURLAP. AT EXPANSION JOINTS, EXTEND DOWELS 9-INCHES, COAT AND WRAP SAME AS CONSTRUCTION JOINTS.

9. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADII RETURNS AND AT MAXIMUM SPACING OF 80-FOOT INTERVALS. LOAD TRANSMISSION UNITS TO BE SPACED AT 12-INCHES ON CENTER. DO NOT LOCATE TRANSVERSE EXPANSION JOINTS WITHIN DEPRESSIONS FOR INLETS.

10. LONGITUDINAL JOINTS SHALL BE INSTALLED AS SHOWN ON HARRIS COUNTY SUBDIVISION PAVEMENT STANDARD DETAIL SHEET. MAXIMUM SPACING BETWEEN JOINTS NOT TO EXCEED 15-FEET. DEFORMED METAL STRIP SHALL BE INSTALLED 1/4-INCH BELOW FINISHED TOP OF PAVEMENT.

11. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED. SIGNS SHALL BE INSTALLED AS SHOWN ON PAVING LAYOUT.

12. STREET NAME SIGNS SHALL BE STANDARD CITY OF HOUSTON SIGNS AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL VERIFY STREET NAMES WITH APPROVED PLAT. ALL SIGNS SHALL BE HIGH INTENSITY REFLECTIVE ALUMINUM.

13. ALL PAINT STRIPING SHALL BE THERMAL REFLECTORIZED STRIPING. PRIOR TO THE PLACEMENT OF THERMAL STRIPING THE ROADWAY SHALL BE (1) SURFACE PREPPED IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 678 AND (2) PRIMED AND SEALED IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 666.

14. ONE BLUE DOUBLE REFLECTORIZED MARKER SHALL BE INSTALLED AT EACH FLUSHING VALVE LOCATION. PLACE MARKER 6-INCHES OFF CENTERLINE OF PAVEMENT ON FLUSHING VALVE SIDE.

15. ALL PROPOSED BARRICADES, WHEN INDICATED ON PLANS, TO BE CITY OF HOUSTON TYPE III AS PER CITY OF HOUSTON STANDARD CONSTRUCTION DETAILS 01580-01-BARRICADE STANDARD. BARRICADES TO BE PLACED 5-FEET FROM END OF PROPOSED PAVEMENT AND CENTERED ON CENTERLINE OF PAVEMENT.

16. WHEELCHAIR RAMPS ARE INCLUDED IN THIS CONTRACT. WHEELCHAIR RAMPS ARE TO BE COLORED (COLOR AS SPECIFIED BY OWNER) CONCRETE DRIVEWAYS AND SIDEWALKS ARE NOT INCLUDED ON THIS CONTRACT, UNLESS OTHERWISE NOTED ON PLANS.

17. STRING LEVEL LINES ON FORMS NOT TO EXCEED 20 FEET.

18. ALL SAWCUTS MADE INTO THE EXISTING CONCRETE PAVEMENT SHALL BE COMPLETELY THROUGH TO THE SUBGRADE.

19. IN ALL CUL-DE-SACS THE CONTRACTOR IS TO PROVIDE CONTROL JOINTS TO PREVENT CRACKING.

20. A ONE YEAR WARRANTY INSPECTION WILL BE HELD SIX (6) WEEKS PRIOR TO THE DATE OF COUNTY ACCEPTANCE.

CENTERPOINT ENERGY/ELECTRIC FACILITIES NOTES

CAUTION: OVERHEAD ELECTRICAL FACILITIES

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS AND OWNERS ARE LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED CALL HL&P AT (713) 207-2222.

CENTERPOINT ENERGY/GAS FACILITIES NOTES

CAUTION: UNDERGROUND GAS FACILITIES

1. LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

2. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

4. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

5. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED__________
ASSISTANT TO THE COUNTY ENGINEER

DATE__________

COPANO PIPELINE NOTES

1. AN APPROPRIATE ENCROACHMENT AGREEMENT SHALL BE EXECUTED BETWEEN COPANO NGL SERVICES., AND THE PARTY/PROPERTY OWNER REQUESTING THE RIGHT TO CROSS COPANO'S PIPELINES OR THAT ENCROACH ON THE EASEMENT WHERE COPANO'S PIPELINES ARE LOCATED WITH PIPELINES/ROADS/UTILITY LINES. A FULLY EXECUTED COPY OF THE ENCROACHMENT AGREEMENT SHALL BE ON-SITE AT ALL TIMES DURING CONSTRUCTION. THESE GENERAL REQUIREMENTS SHALL BE ATTACHED AS AN EXHIBIT TO THE EXECUTED ENCROACHMENT AGREEMENT.

2. ALL PIPELINES, UTILITY LINES AND OTHER UNDERGROUND FACILITIES CONSTRUCTED ACROSS COPANO'S PIPELINE ROW MUST BE INSTALLED WITH A MINIMUM VERTICAL SEPARATION OF 24 INCHES BETWEEN STRUCTURES. ALL FACILITIES CROSSING COPANO'S PIPELINES SHALL BE MADE OF, OR ENCASED IN, STEEL PIPE WITH WELDED JOINTS THE ENTIRE WIDTH OF RIGHT OF WAY. HORIZONTAL SEPARATIONS WILL BE DETERMINED ON A CASE-BY-CASE BASIS. ELECTRICAL CONDUIT AND CABLES ARE SUBJECT TO PARAGRAPH 3 BELOW. ALL PLANS, WORK, AND CLEAN UP WILL BE CONDUCTED IN A MANNER ACCEPTABLE TO COPANO'S ON-SITE REPRESENTATIVE.

3. ALL UNDERGROUND ELECTRICAL CABLE SHALL BE INSTALLED BELOW THE EXISTING PIPELINES WITH A MINIMUM VERTICAL SEPARATION OF 24 INCHES BETWEEN STRUCTURES WITH ALL PLANS, WORK AND CLEAN UP CONDUCTED IN A MANNER ACCEPTABLE TO COPANO'S ON-SITE REPRESENTATIVE. HORIZONTAL SEPARATIONS WILL BE DETERMINED ON A CASE-BY-CASE BASIS. IN ADDITION, THE ELECTRICAL CABLE MUST BE ENCLOSED IN CONDUIT (STEEL OR PVC WITH STEEL CASING). IT SHALL BE COVERED WITH RED CONCRETE WITH A MINIMUM WIDTH OF 6 INCHES ON EACH SIDE AND ABOVE THE CONDUIT, FOR THE ENTIRE WIDTH OF COPANO'S RIGHT OF WAY.

4. NO PAVING FOR ANY USE WHATSOEVER IS TO BE PLACED OVER THE RIGHT OF WAY WITHOUT WRITTEN PERMISSION FROM COPANO.

5. ANY ROAD, STREET, OR DRIVEWAY APPROVED BY COPANO SHALL BE CONSTRUCTED WITH A MINIMUM COVER AND MEASURED FROM THE TOP OF THE PIPELINE TO THE BOTTOM OF THE PAVEMENT, STREET OR DRIVEWAY AS SHOWN BELOW. THE PIPELINE SHALL BE BENEATH THE BOTTOM OF THE PAVEMENT STRUCTURE A MINIMUM OF 48 INCHES INCLUDING THE SUB-GRADE. IF ANY ROAD OR STREET TO BE CONSTRUCTED ACROSS COPANO'S PIPELINE WILL BE DEDICATED FOR PUBLIC USE, COPANO WILL REQUIRE THE PIPELINE UNDER THE ROAD OR STREET TO BE CONSTRUCTED WITH HEAVY WALL PIPE (MINIMUM OF ½" WALL THICKNESS). THE COST OF LOWERING AND REPLACEMENT WILL BE BORNE BY THE DEVELOPER OR PARTY CONSTRUCTING THE ROAD OR STREET.

MINIMUM COVER REQUIREMENTS (FROM TOP OF PIPE)

ROADS AND OTHER SURFACES:
48 INCHES FROM BOTTOM OF PAVEMENT UNDER A ROAD, STREET, OR DRIVEWAY.
36 INCHES UNDER ALL OTHER SURFACES WITHIN THE RIGHT OF WAY.

DITCHES AND CANALS:
UNDER LOWEST POINT IN ROAD BAR DITCHES.
CONCRETE LINED: 12 INCHES. UNLINED: 36 INCHES.
DRAINAGE CANALS, DITCHES – 60 INCHES BELOW THE ULTIMATE FLOW LINE.

IN ADDITION, ANY CONSTRUCTION ACTIVITY SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS PARTICULARLY AS TO PIPELINE CASING REQUIREMENTS, AT A MINIMUM 49 CFR 192.

6. COPANO SHALL HAVE THE RIGHT TO CUT AND REMOVE ANY PAVEMENT OR OTHER SURFACE STRUCTURES NOW OR HEREAFTER LOCATED OVER OR ACROSS COPANO'S PIPELINES, WITHOUT ANY OBLIGATION TO REPAIR, REPLACE OR RESURFACE SAME, FOR THE PURPOSE OF EXERCISING ANY RIGHTS GRANTED TO COPANO UNDER THE RIGHTS OF WAY AND EASEMENTS IN QUESTION.

7. IN THE EVENT COPANO DETERMINES IT IS NECESSARY TO LOWER, ENCASE OR OTHERWISE ADJUST THE PIPELINE BECAUSE OF LANDOWNER OR DEVELOPER CONSTRUCTION ACTIVITY, THE LANDOWNER OR DEVELOPER SHALL REIMBURSE COPANO FOR THE COST OF LOWERING, ENCASEMENT OR OTHER ADJUSTMENT.

8. NOTIFICATION IS REQUIRED TO MR. CLINT LUMPKINS AT (281) 755-4040 (OFC.) OR (281) 923-4716 (MOBILE) OF COPANO'S REGIONAL OFFICE IN SHERIDAN, TEXAS AT LEAST 48 HOURS PRIOR TO COMMENCING ANY EXCAVATING OR CONSTRUCTION ACTIVITY IN THE VICINITY OF ANY PIPELINES. COPANO ALSO REQUIRES THAT THE LONE STAR NOTIFICATION CENTER AT 1_800_669_8344 BE NOTIFIED BEFORE STARTING ANY EXCAVATION OR CONSTRUCTION ACTIVITY. IF YOU ARE UNABLE TO CONTACT LONE STAR NOTIFICATION CENTER OR COPANO'S SHERIDAN OFFICE, PLEASE CALL COPANO AT (713) 621_9547. THIS NUMBER IS ANSWERED 24 HOURS A DAY AND THE INFORMATION WILL BE RELAYED TO THE APPROPRIATE PERSONNEL.

NO EXCAVATING OR CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN THE IMMEDIATE VICINITY OF ANY PIPELINE IN THE ABSENCE OF A COPANO REPRESENTATIVE. ALL PLANS THAT ARE SUBMITTED TO COPANO FOR APPROVAL SHALL HAVE THE THREE PHONE NUMBERS ABOVE NOTED PROMINENTLY ON DRAWINGS, ALONG WITH THE 48 HOURS NOTICE OF DATE OF COMMENCEMENT.

9. ANY CONTRACTOR OR DEVELOPER PLANNING BLASTING OPERATIONS WITHIN 500 FEET OF COPANO'S PIPELINES SHALL SUBMIT A BLASTING PLAN FOR APPROVAL. THIS PLAN WILL INCLUDE HOLE DEPTH, DIAMETER, SPACING, BURDEN, DELAY TIMES, MAXIMUM CHARGE WEIGHT PER DELAY, SEQUENCE EXPLOSIVE TYPE AND BLAST ZONE LOCATION RELATIVE TO THE PIPELINE.

10. NO SIGNS, MONUMENTS, BUILDING, STRUCTURES, MANHOLES, SHRUBBERY, OR TREES SHALL BE LOCATED WITHIN THE RIGHTS OF WAY AND EASEMENT AREA WITHOUT THE CONSENT OF COPANO.

11. NO EXCAVATIONS SHALL BE MADE ON LAND ADJACENT TO COPANO PIPELINES THAT WILL IN ANY WAY IMPAIR, WITHDRAW LATERAL SUPPORT, CAUSE SUBSIDENCE, CREATE THE ACCUMULATION OF WATER, OR CAUSE DAMAGE TO THE PIPELINE AND RIGHTS OF WAY WITHOUT THE APPROVAL OF COPANO.

12. NO FENCE SHALL BE PLACED ACROSS THE RIGHT OF WAY WITHOUT WRITTEN PERMISSION FROM COPANO. IF FENCES ARE PERMITTED, 16-FOOT GATES MUST BE INSTALLED. COPANO WILL INSTALL A LOCK FOR COPANO'S EXCLUSIVE USE FOR ACCESS AND MAINTENANCE PURPOSES.

13. SIDE CUTTERS SHALL BE REMOVED FROM THE BUCKET OF EXCAVATION EQUIPMENT AND A BAR SHALL BE INSTALLED ACROSS THE TEETH DURING EXCAVATION IN THE VICINITY OF THE PIPELINE.

14. ALL WRITTEN CORRESPONDENCE IS TO BE SENT TO COPANO NGL SERVICES, 2727 ALLEN PARKWAY, SUITE 1200, HOUSTON, TEXAS, 77019, ATTENTION: RIGHT-OF WAY DEPARTMENT, TELEPHONE (713) 621_9547, FACSIMILE (713) 621_9502.

15. ANY DAMAGE TO EXISTING PIPELINE MARKERS AND/OR SIGNS, TEST LEADS, VENT PIPES, WILL BE REPLACED OR REPAIRED AT THE SOLE COST AND EXPENSE OF THE DAMAGING PARTY. IF COPANO MAKES SUCH REPAIRS, DAMAGING PARTY WILL REIMBURSE COPANO FOR REMEDIAL EXPENSES WITHIN 15 DAYS.

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12-4-12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : NTS
VERT :

SHEET No: 03 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
REVISIONS				

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
CONSTRUCTION NOTES (SHEET 1 OF 2)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

PATH/FILENAME: L:\CINCO\60194669\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, November 19, 2012 8:41:38 AM
PLOT DATE: Monday, November 19, 2012 8:57:30 AM
ANSI D – 19-Nov-12

KINDER-MORGAN PIPELINE COMPANY NOTES

THE LIST OF DESIGN, CONSTRUCTION AND CONTRACTOR REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING, FOR THE DESIGN AND INSTALLATION OF FOREIGN UTILITIES OR IMPROVEMENTS ON KM RIGHT-OF-WAY (ROW) ARE NOT INTENDED NOR DO THEY WAIVE OR MODIFY ANY RIGHTS KM MAY HAVE UNDER EXISTING EASEMENTS OR ROW AGREEMENTS. REFERENCE EXISTING EASEMENTS AND AMENDMENTS FOR ADDITIONAL REQUIREMENTS. THIS LIST OF REQUIREMENTS IS APPLICABLE FOR KM FACILITIES ON EASEMENTS ONLY. ENCROACHMENTS ON FEE PROPERTY SHOULD BE REFERRED TO THE LAND AND RIGHT-OF-WAY DEPARTMENT.

DESIGN

- KM SHALL BE PROVIDED SUFFICIENT PRIOR NOTICE OF PLANNED ACTIVITIES INVOLVING EXCAVATION, BLASTING, OR ANY TYPE OF CONSTRUCTION ON KM'S ROW TO DETERMINE AND RESOLVE ANY LOCATION, GRADE OR ENCROACHMENT PROBLEMS AND PROVIDE PROTECTION OF OUR FACILITIES AND THE PUBLIC BEFORE THE ACTUAL WORK IS TO TAKE PLACE.
- ENCROACHING ENTITY SHALL PROVIDE KM WITH A SET OF DRAWINGS FOR REVIEW AND A SET OF FINAL CONSTRUCTION DRAWINGS SHOWING ALL ASPECTS OF THE PROPOSED FACILITIES IN THE VICINITY OF KM'S ROW. THE ENCROACHING ENTITY SHALL ALSO PROVIDE A SET OF AS-BUILT DRAWINGS SHOWING THE PROPOSED FACILITIES IN THE VICINITY OF KM'S ROW.
- ONLY FACILITIES SHOWN ON DRAWINGS REVIEWED BY KINDER MORGAN (COMPANY) WILL BE APPROVED FOR INSTALLATION ON KM'S ROW. ALL DRAWING REVISIONS THAT EFFECT FACILITIES PROPOSED TO BE PLACED ON KM'S ROW MUST BE APPROVED BY KM IN WRITING.
- KM SHALL APPROVE THE DESIGN OF ALL PERMANENT ROAD CROSSINGS.
- ENCROACHING ENTITY SHALL, AT THE DISCRETION OF THE KINDER MORGAN, INC., INCORPORATE HEATH ATI "SNIFFER" GAS DETECTION UNITS IN THE DESIGN OF PAVED AREAS OR "GREEN BELT" AREAS OF KM ROW. THE UNITS SHALL BE INSTALLED PER KM STANDARD TYP-V-0100B010.
- ANY REPAIR TO SURFACE FACILITIES FOLLOWING FUTURE PIPELINE MAINTENANCE OR REPAIR WORK BY KM WILL BE AT THE EXPENSE OF THE DEVELOPER OR LANDOWNER.
- THE DEPTH OF COVER OVER THE KM PIPELINES SHALL NOT BE REDUCED NOR DRAINAGE ALTERED WITHOUT KM'S WRITTEN APPROVAL.
- CONSTRUCTION OF ANY PERMANENT STRUCTURE, BUILDING(S) OR OBSTRUCTIONS WITHIN KM PIPELINE EASEMENT IS NOT PERMITTED.
- PLANTING OF SHRUBS AND TREES IS NOT PERMITTED ON KM PIPELINE EASEMENT.
- IRRIGATION EQUIPMENT I.E. BACKFLOW PREVENT DEVICES, METERS, VALVES, VALVE BOXES, ETC. SHALL NOT BE LOCATED ON KM EASEMENT.
- FOREIGN LINE, GAS, WATER, ELECTRIC AND SEWER LINES, ETC., MAY CROSS PERPENDICULAR TO KM'S PIPELINE WITHIN THE ROW, PROVIDED THAT A MINIMUM OF TWO (2) FEET OF VERTICAL CLEARANCE IS MAINTAINED BETWEEN KM PIPELINE(S) AND THE FOREIGN PIPELINE. CONSTANT LINE ELEVATIONS MUST BE MAINTAINED ACROSS KM'S ENTIRE ROW WIDTH, GRAVITY DRAIN LINES ARE THE ONLY EXCEPTION. FOREIGN LINE CROSSINGS BELOW THE KM PIPELINE MUST BE EVALUATED BY KM TO ENSURE THAT A SIGNIFICANT LENGTH OF THE KM LINE IS NOT EXPOSED AND UNSUPPORTED DURING CONSTRUCTION. WHEN INSTALLING UNDERGROUND UTILITIES, THE LAST LINE SHOULD BE PLACED BENEATH ALL EXISTING LINES UNLESS IT IS IMPRACTICAL OR UNREASONABLE TO DO SO. FOREIGN LINE CROSSINGS ABOVE THE KM PIPELINE WITH LESS THAN 2 FEET OF CLEARANCE MUST BE EVALUATED BY KM TO ENSURE THAT ADDITIONAL SUPPORT IS NOT NECESSARY TO PREVENT SETTLING ON TOP OF THE KM NATURAL GAS PIPELINE.
- A FOREIGN PIPELINE SHALL CROSS KM FACILITIES AT AS NEAR A NINETY-DEGREE ANGLE AS POSSIBLE. A FOREIGN PIPELINE SHALL NOT RUN PARALLEL TO KM PIPELINE WITHIN KM EASEMENT WITHOUT WRITTEN PERMISSION OF KM.
- THE FOREIGN UTILITY SHOULD BE ADVISED THAT KM MAINTAINS CATHODIC PROTECTION ON THEIR PIPELINES. THE FOREIGN UTILITY MUST COORDINATE THEIR CATHODIC PROTECTION SYSTEM WITH KM'S. AT THE REQUEST OF KM, FOREIGN UTILITIES SHALL INSTALL (OR ALLOW TO BE INSTALLED) CATHODIC PROTECTION TEST LEADS AT ALL CROSSINGS FOR THE PURPOSES OF MONITORING CATHODIC PROTECTION. THE KM CATHODIC PROTECTION (CP) TECHNICIAN AND THE FOREIGN UTILITY CP TECHNICIAN SHALL PERFORM POST CONSTRUCTION CP INTERFERENCE TESTING. INTERFERENCE ISSUES SHALL BE RESOLVED BY MUTUAL AGREEMENT BETWEEN FOREIGN UTILITY AND KM. ALL COSTS ASSOCIATED WITH THE CORRECTION OF CATHODIC PROTECTION PROBLEMS ON KM PIPELINE AS A RESULT OF THE FOREIGN UTILITY CROSSING SHALL BE BORNE BY THE FOREIGN UTILITY FOR A PERIOD OF ONE YEAR FROM DATE THE FOREIGN UTILITY IS PUT IN SERVICE.
- THE METALLIC FOREIGN LINE SHALL BE COATED WITH A SUITABLE PIPE COATING FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING UNLESS OTHERWISE REQUESTED BY THE KM CP TECHNICIAN.
- AC ELECTRICAL LINES MUST BE INSTALLED IN CONDUIT AND PROPERLY INSULATED.
- DOT APPROVED PIPELINE MARKERS SHALL BE INSTALLED SO AS TO INDICATE THE ROUTE OF THE FOREIGN PIPELINE ACROSS THE KM ROW.
- NO POWER POLES, LIGHT STANDARDS, ETC. SHALL BE INSTALLED ON KM EASEMENT.

CONSTRUCTION

- CONTRACTORS SHALL BE ADVISED OF KM'S REQUIREMENTS AND BE CONTRACTUALLY OBLIGATED TO COMPLY.
- THE CONTINUED INTEGRITY OF KM'S PIPELINES AND THE SAFETY OF ALL INDIVIDUALS IN THE AREA OF PROPOSED WORK NEAR KM'S FACILITIES ARE OF THE UTMOST IMPORTANCE. THEREFORE, CONTRACTOR MUST MEET WITH KM REPRESENTATIVES PRIOR TO CONSTRUCTION TO PROVIDE AND RECEIVE NOTIFICATION LISTINGS FOR APPROPRIATE AREA OPERATIONS AND EMERGENCY PERSONNEL. KM'S ON-SITE REPRESENTATIVE WILL REQUIRE DISCONTINUATION OF ANY WORK THAT, IN HIS OPINION, ENDANGERS THE OPERATIONS OR SAFETY OF PERSONNEL, PIPELINES OR FACILITIES.
- THE CONTRACTOR MUST EXPOSE ALL KM TRANSMISSION AND DISTRIBUTION LINES PRIOR TO CROSSING TO DETERMINE THE EXACT ALIGNMENT AND DEPTH OF THE LINES. A KM REPRESENTATIVE MUST BE PRESENT. IN THE EVENT OF PARALLEL LINES, ONLY ONE PIPELINE CAN BE EXPOSED AT A TIME.
- KM WILL NOT ALLOW PIPELINES TO REMAIN EXPOSED OVERNIGHT WITHOUT CONSENT OF KM DESIGNATED REPRESENTATIVE. CONTRACTOR MAY BE REQUIRED TO BACKFILL PIPELINES AT THE END OF EACH DAY.
- A KM REPRESENTATIVE SHALL DO ALL LINE LOCATING. A KM REPRESENTATIVE SHALL BE PRESENT FOR HYDRAULIC EXCAVATION. THE USE OF PROBING RODS FOR PIPELINE LOCATING SHALL BE PERFORMED BY KM REPRESENTATIVES ONLY, TO PREVENT UNNECESSARY DAMAGE TO THE PIPELINE COATING.
- NOTIFICATION SHALL BE GIVEN TO KM AT LEAST 72 HOURS BEFORE START OF CONSTRUCTION. A SCHEDULE OF ACTIVITIES FOR THE DURATION OF THE PROJECT MUST BE MADE AVAILABLE AT THAT TIME TO FACILITATE THE SCHEDULING OF KINDER MORGAN, INC.'S WORK SITE REPRESENTATIVE. ANY CONTRACTOR SCHEDULE CHANGES SHALL BE PROVIDED TO KINDER MORGAN, INC. IMMEDIATELY.
- HEAVY EQUIPMENT WILL NOT BE ALLOWED TO OPERATE DIRECTLY OVER KM PIPELINES OR IN KM ROW UNLESS WRITTEN APPROVAL IS OBTAINED FROM KINDER MORGAN (COMPANY). HEAVY EQUIPMENT SHALL ONLY BE ALLOWED TO CROSS KM PIPELINES AT LOCATIONS DESIGNATED BY KINDER MORGAN, INC. CONTRACTOR SHALL COMPLY WITH ALL PRECAUTIONARY MEASURES REQUIRED BY KM TO PROTECT ITS PIPELINES. WHEN INCLEMENT WEATHER EXISTS, PROVISIONS MUST BE MADE TO COMPENSATE FOR SOIL DISPLACEMENT DUE TO SUBSIDENCE OF TIRES.
- EXCAVATING OR GRADING WHICH MIGHT RESULT IN EROSION OR WHICH COULD RENDER THE KM ROW INACCESSIBLE SHALL NOT BE PERMITTED UNLESS THE CONTRACTOR/DEVELOPER/OWNER AGREES TO RESTORE THE AREA TO ITS ORIGINAL CONDITION AND PROVIDE PROTECTION TO KM'S FACILITY.
- A KM REPRESENTATIVE SHALL BE ON-SITE TO MONITOR ANY CONSTRUCTION ACTIVITIES WITHIN TWENTY-FIVE (25) FEET OF A KM PIPELINE OR ABOVEGROUND APPURTENANCE. THE CONTRACTOR SHALL NOT WORK WITHIN THIS DISTANCE WITHOUT A KM REPRESENTATIVE BEING ON SITE. ONLY HAND EXCAVATION SHALL BE PERMITTED WITHIN A MINIMUM OF 18 INCHES (REFER TO STATE SPECIFIC RULES/REGULATIONS REGARDING ANY ADDITIONAL CLEARANCE REQUIREMENTS) OF KM PIPELINES, VALVES AND FITTINGS. HOWEVER, PROCEED WITH EXTREME CAUTION WHEN WITHIN THREE (3) FEET OF THE PIPE.
- RIPPING IS ONLY ALLOWED WHEN THE POSITION OF THE PIPE IS KNOWN AND NOT WITHIN TEN (10) FEET OF KM FACILITY UNLESS COMPANY REPRESENTATIVE IS PRESENT.
- TEMPORARY SUPPORT OF ANY EXPOSED KM PIPELINE BY CONTRACTOR MAY BE NECESSARY IF REQUIRED BY KM'S ON-SITE REPRESENTATIVE. BACKFILL BELOW THE EXPOSED LINES AND 12" ABOVE THE LINES SHALL BE REPLACED WITH SAND OR OTHER SELECTED MATERIAL AS APPROVED BY KM'S ON-SITE REPRESENTATIVE AND THOROUGHLY COMPACTED IN 12" LIFTS TO 95% OF STANDARD PROCTOR DRY DENSITY MINIMUM OR AS APPROVED BY KM'S ON-SITE REPRESENTATIVE. THIS IS TO ADEQUATELY PROTECT AGAINST STRESSES THAT MAY BE CAUSED BY THE SETTLING OF THE PIPELINE.

NO BLASTING SHALL BE ALLOWED WITHIN 1000 FEET OF KM'S FACILITIES UNLESS BLASTING NOTIFICATION IS GIVEN TO KM INCLUDING COMPLETE BLASTING PLAN DATA. A PRE-BLAST MEETING SHALL BE CONDUCTED BY THE ORGANIZATION RESPONSIBLE FOR BLASTING.

KM SHALL BE INDEMNIFIED AND HELD HARMLESS FROM ANY LOSS, COST OF LIABILITY FOR PERSONAL INJURIES RECEIVED, DEATH CAUSED OR PROPERTY DAMAGE SUFFERED OR SUSTAINED BY ANY PERSON RESULTING FROM ANY BLASTING OPERATIONS UNDERTAKEN WITHIN 500 FEET OF ITS FACILITIES. THE ORGANIZATION RESPONSIBLE FOR BLASTING SHALL BE LIABLE FOR ANY AND ALL DAMAGES CAUSED TO KM'S FACILITIES AS A RESULT OF THEIR ACTIVITIES WHETHER OR NOT KM REPRESENTATIVES ARE PRESENT. KM SHALL HAVE A SIGNED AND EXECUTED BLASTING INDEMNIFICATION AGREEMENT BEFORE AUTHORIZED PERMISSION TO BLAST CAN BE GIVEN.

NO BLASTING SHALL BE ALLOWED WITHIN 300 FEET OF KM'S FACILITIES UNLESS BLASTING NOTIFICATION IS GIVEN TO KM A MINIMUM OF ONE WEEK BEFORE BLASTING. (NOTE: COVERED ABOVE)KM SHALL REVIEW AND ANALYZE THE BLASTING METHODS. A WRITTEN BLASTING PLAN SHALL BE PROVIDED BY THE ORGANIZATION RESPONSIBLE FOR BLASTING AND AGREED TO IN WRITING BY KM IN ADDITION TO MEETING REQUIREMENTS FOR 500' AND 1000' BEING MET ABOVE. A WRITTEN EMERGENCY PLAN SHALL BE PROVIDED BY THE ORGANIZATION RESPONSIBLE FOR BLASTING. (NOTE: COVERED ABOVE)

- ANY CONTACT WITH ANY KM FACILITY, PIPELINE, VALVE SET, ETC. SHALL BE REPORTED IMMEDIATELY TO KM. IF REPAIRS TO THE PIPE ARE NECESSARY, THEY WILL BE MADE AND INSPECTED BEFORE THE SECTION IS RE-COATED AND THE LINE IS BACK-FILLED.
- KM PERSONNEL SHALL INSTALL ALL TEST LEADS ON KM FACILITIES.
- BURNING OF TRASH, BRUSH, ETC. IS NOT PERMITTED WITHIN THE KM ROW.

INSURANCE REQUIREMENTS

- ALL CONTRACTORS, AND THEIR SUBCONTRACTORS, WORKING ON COMPANY EASEMENTS SHALL MAINTAIN THE FOLLOWING TYPES OF INSURANCE POLICIES AND MINIMUM LIMITS OF COVERAGE. ALL INSURANCE CERTIFICATES CARRIED BY CONTRACTOR AND GRANTEE SHALL INCLUDE THE FOLLOWING STATEMENT: "KINDER MORGAN AND ITS AFFILIATED OR SUBSIDIARY COMPANIES ARE NAMED AS ADDITIONAL INSURED ON ALL ABOVE POLICIES (EXCEPT WORKER'S COMPENSATION) AND WAIVER OF SUBROGATION IN FAVOR OF KINDER MORGAN AND ITS AFFILIATED OR SUBSIDIARY COMPANIES, THEIR RESPECTIVE DIRECTORS, OFFICERS, AGENTS AND EMPLOYEES APPLIES AS REQUIRED BY WRITTEN CONTRACT." CONTRACTOR SHALL FURNISH CERTIFICATES OF INSURANCE EVIDENCING INSURANCE COVERAGE PRIOR TO COMMENCEMENT OF WORK AND SHALL PROVIDE THIRTY (30) DAYS NOTICE PRIOR TO THE TERMINATION OR CANCELLATION OF ANY POLICY.

1. STATUTORY COVERAGE WORKERS' COMPENSATION INSURANCE IN ACCORDANCE WITH THE LAWS OF THE STATES WHERE THE WORK IS TO BE PERFORMED. IF CONTRACTOR PERFORMS WORK ON THE ADJACENT ON NAVIGABLE WATERWAYS CONTRACTOR SHALL FURNISH A CERTIFICATE OF INSURANCE SHOWING COMPLIANCE WITH THE PROVISIONS OF THE FEDERAL LONGSHOREMAN'S AND HARBOR WORKERS' COMPENSATION LAW.
2. EMPLOYER'S LIABILITY INSURANCE, WITH LIMITS OF NOT LESS THAN $1,000,000 PER OCCURRENCE AND $1,000,000 DISEASE EACH EMPLOYEE.
3. COMMERCIAL GENERAL LIABILITY INSURANCE WITH A COMBINED SINGLE LIMIT OF NOT LESS THAN $2,000,000 PER OCCURRENCE AND IN THE AGGREGATE. ALL POLICIES SHALL INCLUDE COVERAGE FOR BLANKET CONTRACTUAL LIABILITY ASSUMED.
4. COMPREHENSIVE AUTOMOBILE LIABILITY INSURANCE WITH A COMBINED SINGLE LIMIT OF NOT LESS THAN $1,000,000. IF NECESSARY, THE POLICY SHALL BE ENDORSED TO PROVIDE CONTRACTUAL LIABILITY COVERAGE.
5. IF NECESSARY COMPREHENSIVE AIRCRAFT LIABILITY INSURANCE WITH COMBINED BODILY INJURY, INCLUDING PASSENGERS, AND PROPERTY DAMAGE LIABILITY SINGLE LIMITS OF NOT LESS THAN $5,000,000 EACH OCCURRENCE.
6. CONTRACTOR'S POLLUTION LIABILITY INSURANCE THIS COVERAGE SHALL BE MAINTAINED IN FORCE FOR THE FULL PERIOD OF THIS AGREEMENT WITH AVAILABLE LIMITS OF NOT LESS THEN $2,000,000 PER OCCURRENCE.
7. POLLUTION LEGAL LIABILITY INSURANCE THIS COVERAGE MUST BE MAINTAINED IN A MINIMUM AMOUNT OF $5,000,000 PER OCCURRENCE.

TXDOT SPECIAL PROVISIONS AND SPECIFICATIONS

1. THIS PERMIT IS VOID IF INSTALLATION IS NOT COMPLETE WITHIN ONE YEAR OF APPROVAL.
2. TRAFFIC CONTROL IN UTILITY WORK ZONES SHALL CONFORM TO APPLICABLE SPECIFICATIONS TO TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVISED FOR STREETS AND HIGHWAYS, PART VI.
3. THIS PERMIT ISSUED SUBJECT TO A TRAFFIC CONTROL PLAN BEING FILED AND APPROVED BY THE AREA ENGINEER OR THE PERSON NAMED ON THE PERMIT. NO WORK WITHIN THE STATE RIGHT-OF-WAY SHALL BE PERFORMED UNTIL THIS APPROVAL HAS BEEN GRANTED.
4. IT IS MUTUALLY AGREED AND UNDERSTOOD THAT THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL PLAN SHALL BE THE RESPONSIBILITY OF THE GRANTEE AND THE GRANTEE SHALL INDEMNIFY AND SAVE HARMLESS THE STATE FROM ANY AND ALL DAMAGES OR LOSSES THAT MAY DEVELOP DUE TO THIS PROJECT.
5. GRANTEE SHALL CONTACT MS. MONA KOZMAN, AT 713-802-5895 OR MR. UGONNA UGHANZE, P.E., TRAFFIC SYSTEMS MANAGER, AT 713-802-5661.
6. HIGHWAY CROSSINGS SHALL BE BORED OR TUNNELED. BORED HOLE OR TUNNEL SHALL NOT EXCEED THE DIAMETER OF THE CASING BY MORE THAN ONE INCH, AND SHALL EXTEND THE FULL WIDTH OF THE PAVEMENT AND TEN FEET ON EACH SIDE THEREOF OR FIVE FEET BEHIND THE BACK OF CURB.
7. CASING SHALL CONSIST OF SMOOTH WALL PIPE WITH WELDED JOINTS AND SEAMS, AND SHALL BE CONTINUOUS, EXTENDING PAST THE TOP OF BACK SLOPE OF THE OUTERMOST DITCHES OF FIVE FEET BEHIND THE BACK OF CURB.
8. ANY ADJUSTMENT OF RELOCATION OF THIS INSTALLATION NECESSARY BECAUSE OF FUTURE HIGHWAY CONSTRUCTION SHALL BE ACCOMPLISHED WITHOUT COST TO THE TEXAS DEPARTMENT OF TRANSPORTATION.
9. ALL EXCAVATIONS WITHIN THE RIGHT-OF-WAY AND NOT UNDER SURFACING SHALL BE BACKFILLED BY TAMPING IN SIX INCH HORIZONTAL LAYERS AND/OR AS DIRECTED. ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY AND THE EXCAVATION FINISHED FLUSH WITH SURROUNDING NATURAL GROUND.
10. WHERE SODDING IS DISTURBED BY EXCAVATION OR BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING. THIS WORK SHALL BE IN ACCORDANCE WITH TxDOT SPECIFICATIONS.
11. HIGHWAY CROSSINGS UNDER SURFACED ROADS AND SURFACED CROSSROADS WITH THE RIGHT-OF-WAY SHALL BE PLACED BY BORING. BORING SHALL EXTEND FROM CROWN LINE TO CROWN LINE.
12. USE OF WATER OR OTHER FLUIDS IN CONNECTION WITH BORING OPERATIONS WILL BE PERMITTED ONLY IN SUFFICIENT QUANTITY TO LUBRICATE BORING PIT AND PROVIDE SMOOTH FLOW OF CUTTINGS. JETTING WILL NOT BE PERMITTED.
13. OPERATIONS ON THE HIGHWAYS SHALL BE PERFORMED IN SUCH A MANNER THAT OPERATING EQUIPMENT AND EXCAVATED MATERIAL ARE KEPT OFF THE PAVEMENT AT ALL TIMES.
14. BARRICADES AND WARNING SIGNS, AND FLAGMEN WHEN NECESSARY, SHALL BE PROVIDED BY THE CONTRACTOR OR OWNER. ONE-HALF THE TRAVELED PORTION OF THE ROADWAY MUST BE OPEN TO TRAFFIC AT ALL TIMES.
15. WORK COVERED BY THIS PERMIT SHALL BE SO CONDUCTED THAT IT WILL NOT INTERFERE IN ANY WAY WITH HIGHWAY CONSTRUCTION OR REPAIR WORK, OR ANY STATE MAINTENANCE WORK THAT MAY BE DONE ON THIS ROAD. IN THE EVENT OF SUCH INTERFERENCE OCCURS, YOU WILL CEASE OPERATIONS IN THE AREA UNTIL SUCH TIME AS THE ROAD WORK REFERRED TO ABOVE IS COMPLETE.

ENERGY TRANSFER COMPANY PIPELINE NOTES

ENERGY TRANSFER COMPANY AND ITS AFFILIATES AND RELATED COMPANIES ("ETC") ARE DEDICATED TO THE HIGHEST SAFETY STANDARDS IN THE CONTINUED OPERATION OF THEIR PIPELINES AND FACILITIES. OF UTMOST IMPORTANCE TO ETC IS THE CONTINUED SAFETY OF THE PUBLIC AND ITS PIPELINE AND FACILITIES DURING CONSTRUCTION AND OTHER ACTIVITIES ON, ACROSS, OVER OR UNDER ITS RIGHT-OF-WAY. ETC IS THEREFORE PLEASED TO PROVIDE THESE GENERAL GUIDELINES ("GUIDELINES") FOR THIRD-PARTY CONSTRUCTION, BLASTING, INSTALLATION OR MODIFICATION OF PIPELINES, UNDERGROUND UTILITIES, ROADS, STREETS, DRIVEWAYS, DITCHES, DRAINAGE CANALS OR ANY OTHER TYPE OF TEMPORARY OR PERMANENT STRUCTURE OR OBSTRUCTION OR ANY OTHER ENCROACHMENT ON, OVER, ACROSS, OR PARALLELING, ETC'S RIGHT-OF-WAY (HEREINAFTER REFERRED TO AS "CROSSING" OR "CROSSINGS").

THESE GUIDELINES ARE INTENDED TO BE CONSISTENT WITH §756.123 OF THE TEXAS HEALTH AND SAFETY CODE AND ARE FURTHER BASED UPON INDUSTRY STANDARDS AND PRACTICE. THESE GUIDELINES ARE MERELY GUIDELINES AND UPON NOTIFICATION TO ETC OF A PROPOSED CROSSING, AS REQUIRED BY THE TEXAS HEALTH AND SAFETY CODE, EACH PROPOSED CROSSING AND ITS CORRESPONDING FINALIZED PLANS AND PROFILE DRAWINGS WILL BE EVALUATED BY ETC AND THE THIRD-PARTY REQUESTING SUCH CROSSING, PENDING FINAL APPROVAL.

1. NOTIFICATION

   a. THE PALIY REQUESTING SUCH CROSSING SHALL USE ITS BEST EFFORTS TO PROVIDE ETC WITH ITS FINALIZED PLANS AND PROFILE DRAWINGS AT LEAST THIRTY DAYS (30) DAYS PRIOR TO ANY RELATED CONSTRUCTION OR MAINTENANCE ACTIVITY. THE PIPELINE FACILITY SHALL INCLUDE, BUT IS NOT LIMITED TO, RIGHTS-OF-WAY, FEE PROPERTIES, EASEMENTS, PIPELINES, METER AND REGULATOR BUILDINGS, AND VALVE SITES ("ETC PIPELINE FACILITY" OR "FACILITIES"). UNLESS OTHERWISE AGREED TO BY ETC IN WRITING, NO EQUIPMENT SHALL ENTER ONTO ETC'S PIPELINE FACILITY UNLESS AN ETC REPRESENTATIVE IS ON LOCATION.

   B. NO EXCAVATION SHALL OCCUR IN THE VICINITY OF ETC'S PIPELINE FACILITY UNTIL:

      1) IN ACCORDANCE WITH STATE APPROVED NOTIFICATION CENTERS, ETC SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION OR MAINTENANCE ACTIVITY. ETC CURRENTLY UTILIZES THE TEXAS EXCAVATION SAFETY SYSTEM (TESS) AS ITS NOTIFICATION CENTER. YOU MUST CONTACT THE TESS NOTIFICATION CENTER AT 811 OR 1-800-344-8377, IN ADDITION TO CONTACTING ETC'S FIELD REPRESENTATIVE KORY PARTON AT (281) 8501417, BEFORE COMMENCING ANY CROSSING AT OR NEAR ETC'S PIPELINE FACILITY; AND

      2) UNLESS OTHERWISE AGREED TO BY ETC IN WRITING, AN ETC INSPECTOR IS ON SITE TO MONITOR THE EXCAVATION ACTIVITIES.

2. DRAWINGS FOR PROPOSED CONSTRUCTION OR MAINTENANCE

   ANY PROPOSED CONSTRUCTION OR MAINTENANCE ACTIVITY IN THE VICINITY OF ETC'S PIPELINE FACILITY WILL REQUIRE SUBMITTAL OF FINAL PLANS AND PROFILE DRAWINGS FOR PRIOR REVIEW AND APPROVAL BY ETC. ONE (I) COPY OF THESE DRAWINGS MUST BE SUBMITTED TO ETC'S ENCROACHMENT DEPARTMENT LOCATED AT 711 LOUISIANA STREET, SUITE 900, HOUSTON, TEXAS 77002. ALL PLANS AND DRAWINGS MUST SHOW IN DETAIL, ALL OF ETC'S PIPELINE FACILITY, ITS CORRESPONDING RIGHT-OF-WAY, AND ANY OTHER LANDMARKS THAT WILL ASSIST ETC TO DETERMINE THE LOCATION OF THE PROPOSED CROSSING AND THE AFFECTS OF THE PROPOSED CONSTRUCTION OR MAINTENANCE ACTIVITY ON ETC'S PIPELINE FACILITY.

3. ENCROACHMENT AGREEMENT

   IN CERTAIN INSTANCES, DUE TO THE TYPE OF CROSSING REQUIRED AND THE PROBABLE IMPACT UPON ETC'S FACILITIES, AN ENCROACHMENT AGREEMENT MAY BE NECESSARY FOR PROPOSED CONSTRUCTION OR MAINTENANCE WITHIN ETC'S PIPELINE FACILITY. ETC SHALL BE RESPONSIBLE FOR PREPARING SUCH ENCROACHMENT AGREEMENT AND SHALL BEAR THE COST AND EXPENSE IN SUCH PREPARATION. SUCH ENCROACHMENT AGREEMENT SHALL OUTLINE THE RESPONSIBILITIES, CONDITIONS, AND LIABILITIES OF THE PARTIES AND MUST BE FULLY EXECUTED AND IN ETC'S POSSESSION PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY.

4. INSURANCE COVERAGE

   IN CELIAIN INSTANCES, DUE TO THE TYPE OF CROSSING REQUIRED AND THE PROBABLE IMPACT UPON ETC'S FACILITIES, ETC MAY REQUIRE EVIDENCE OF COMPREHENSIVE GENERAL LIABILITY INSURANCE COVERAGE PRIOR TO ANY CONSTRUCTION OR MAINTENANCE ACTIVITY IN THE VICINITY OF ITS FACILITIES. IN THE EVENT THAT ETC REQUIRES EVIDENCE OF COMPREHENSIVE GENERAL LIABILITY INSURANCE, ETC AND/OR ITS AFFILIATES AND RELATED COMPANIES, WHICHEVER THE CASE MAY BE, SHALL BE NAMED AS ADDITIONAL INSURED.

5. CROSSING PIPELINES WITH HEAVY EQUIPMENT

   TO PROTECT ETC'S PIPELINES OR RELATED FACILITIES FROM ADDITIONAL EXTERNAL LOADING, ETC MAY PERFORM A FIELD SURVEY AND AN ENGINEERING STUDY TO DETERMINE THE EFFECTS OF ANY PROPOSED ACTIVITY OVER ITS PIPELINES OR RELATED FACILITIES. MATS, TIMBER, BRIDGES, OR OTHER PROTECTIVE MATERIALS DEEMED NECESSARY AND APPROPRIATE BY ETC MAY BE REQUIRED AND PLACED OVER ETC'S PIPELINES OR RELATED FACILITIES FOR THE DURATION OF ANY LOADING.

6. EXCAVATION, CUTS, OR FILL NEAR ETC'S PIPELINE FACILITY

   A. UNLESS OTHERWISE AGREED TO BY ETC IN WRITING, AN ETC REPRESENTATIVE WILL BE ON LOCATION PRIOR TO AND DURING CONSTRUCTION ACTIVITY WITHIN ETC'S PIPELINE FACILITY.

   B. NO HEAVY EQUIPMENT OF ANY TYPE WILL BE PERMITTED TO WORK DIRECTLY OVER ETC'S PIPELINES OR RELATED FACILITIES, UNLESS OTHERWISE AGREED TO IN WRITING BY ETC.

   C. ALL EXCAVATION WITHIN EIGHTEEN INCHES (18") OF ANY PIPELINE WILL BE PERFORMED BY HAND. AT THE DISCRETION OF ETC'S ONSITE REPRESENTATIVE, EXCAVATORS MAY BE REQUIRED TO HAND DIG BEGINNING AT A DISTANCE GREATER THAN EIGHTEEN (18) INCHES.

   D. ALL EXCAVATIONS WITHIN ETC' S PIPELINE FACILITY SHALL BE BACKFILLED WITH A MINIMUM OF EIGHT (8) INCH LIFTS OF BACKFILL MATERIAL, CLEAN AND FREE FROM ROCK, TRASH, CONCRETE, RUBBISH, OR HAZARDOUS MATERIAL AND COMPACTED TO A MINIMUM STANDARD PROCTOR DENSITY OF 95% USING MECHANICAL COMPACTION EQUIPMENT. SOIL BACKFILL MUST BE COMPACTED TO THE SATISFACTION OF THE ETC ONSITE INSPECTOR SO THAT SETTLING DOES NOT OCCUR.

   E. NO GRADE CUTS WILL BE PERMITTED WITHIN ETC'S PIPELINE FACILITY UNLESS OTHERWISE AGREED TO IN WRITING BY ETC AND WITH ETC'S REPRESENTATIVE ON LOCATION. AN ENGINEERING STUDY MAY BE PERFORMED TO ENSURE THAT THE LATERAL STABILITY OF ETC'S PIPELINES OR RELATED FACILITIES ARE NOT AFFECTED.

   F. WHEN BORING UNDER ETC'S PIPELINES OR RELATED FACILITIES, THE PARTY WITH THE APPROVED CROSSING PLANS AND DRAWINGS SHALL EXPOSE A MINIMUM OF TWENTY-FOUR (24) INCHES BELOW THE BOTTOM OF EACH PIPELINE TO ENSURE VEL1ICAL SEPARATION OF NOT LESS THAN TWENTY-FOUR (24) INCHES OF CLEARANCE. PLAN AND PROFILE DRAWINGS ARE REQUIRED FOR ALL PROPOSED BORINGS.

   G. NO FILL SHALL BE PERMITTED WITHIN ETC'S PIPELINE FACILITY UNLESS OTHERWISE AGREED TO IN WRITING BY ETC. IN NO EVENT, SHALL MORE THAN TWENTY-FOUR INCHES (24") OF EARTHEN FILL MATERIAL, FREE FROM ANY ROCKS, TRASH, CONCRETE, RUBBISH, REBAR, HAZARDOUS MATERIALS, ETC., BE PERMITTED WITHIN ETC'S PIPELINE FACILITY, UNLESS OTHERWISE AGREED TO IN WRITING BY ETC.

   H. EARTHEN COVER OVER ETC'S PIPELINES SHALL BE THIRTY-SIX (36) INCHES OR NO LESS THAN WHAT WAS ORIGINALLY THERE PRIOR TO ANY CONSTRUCTION. IN THE EVENT THAT ETC DETERMINES THAT A LESSER COVER WILL NOT INCREASE THE RISK TO THE PUBLIC OR INCREASE THE RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO ETC'S PIPELINES OR RELATED FACILITIES, ETC MAY ALLOW A LESSER EARTHEN COVER, IN A MINIMUM AMOUNT AS DETERMINED SOLELY WITHIN THE DISCRETION OF ETC.

   I. NO TRASH OR DEBRIS SHALL BE PLACED IN ANY EXCAVATION OR LEFT IN OR ON ETC'S PIPELINE FACILITY.

7. ABOVEGROUND APPURTENANCES, STRUCTURES AND OBSTRUCTIONS

   UNLESS OTHERWISE AGREED TO IN WRITING BY ETC, NO ABOVEGROUND APPURTENANCES, STRUCTURES, OR OBSTRUCTIONS OF A TEMPORARY OR PERMANENT NATURE SHALL BE LOCATED WITHIN ETC'S PIPELINE FACILITY THAT, IN ANY WAY, INTERFERE WITH OPERATING, MAINTAINING, ACCESSING, INSPECTING, REPAIRING, MODIFYING, REPLACING OR RELOCATING SUCH FACILITIES. THE APPURTENANCES, STRUCTURES, AND OBSTRUCTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: BUILDINGS, STRUCTURES, SIGNAGE, UTILITY POLES, STEEL TOWERS, GUY WIRES, OTHER STRUCTURES SUPPORTING AERIAL LINES, SATELLITE DISHES, MANHOLES, CATCH BASINS, UTILITY PEDESTALS, TRANSFORMERS, FIRE HYDRANT, LARGE SPOILS OF EM1HEN MATERIALS, DECKS, POOLS, BOATS, RV'S, TRAILERS, STORAGE OF HAZARDOUS OR NON-HAZARDOUS MATERIALS.

8. PROPOSED PIPE AND UTILITY LINES

   a. GENERAL GUIDELINES:

      1) FOR THE SAFETY OF THE PUBLIC AND TO LESSEN THE RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO ETC'S PIPELINE FACILITY AND IN FURTHERANCE OF THE TEXAS HEALTH AND SAFETY CODE, ETC'S PIPELINE FACILITY SHALL BE POSITIVELY LOCATED BY ETC BEFORE ANY CROSSINGS ARE CONSTRUCTED OR INSTALLED NEAR ETC'S PIPELINE FACILITY. UNLESS OTHERWISE AGREED TO IN WRITING BY ETC, ETC REQUIRES A MINIMUM CLEARANCE OF TWENTY-FOUR (24) INCHES BE MAINTAINED BETWEEN ETC'S PIPELINE (TOP, BOTTOM, AND SIDES) OR RELATED FACILITIES AND ANY FOREIGN LINE OR FACILITIES.

      2) ALL FOREIGN LINES SHALL FULLY CROSS ETC'S PIPELINE FACILITY AT AN ANGLE OF NOT LESS THAN FORTY-FIVE DEGREES (45°), OR AS NEAR AS POSSIBLE THERETO. BURIED UTILITY LINES MUST BE IDENTIFIED WITH PERMANENT ABOVE-GROUND MARKERS WHERE LINES ENTER AND EXIT ETC'S RIGHT-OF-WAY, WHICH RIGHTS TO INSTALL AND MAINTAIN THE MARKERS, SHALL BE THE RESPONSIBILITY OF THE FOREIGN LINE OWNER. LONGITUDINAL OCCUPANCY OF ETC'S PIPELINE FACILITY WILL NOT BE PERMITTED.

      3) NO MANHOLES, VALVES OR OTHER APPURTENANCES WILL BE PERMITTED WITHIN ETC'S PIPELINE FACILITY.

      4) VERTICAL AND HORIZONTAL BENDS SHALL BE MINIMIZED WITHIN ETC'S PIPELINE FACILITY.

      5) ETC'S PIPELINE FACILITY IS CATHODICALLY PROTECTED. ALL OTHER CATHODICALLY PROTECTED FACILITIES THAT ENTER OR CROSS ETC'S PIPELINE FACILITY MUST HAVE TEST LEADS INSTALLED. ANY INQUIRIES FOR COOPERATIVE TESTING SHOULD BE DIRECTED TO THE ATTENTION OF ETC'S FIELD REPRESENTATIVE ON LOCATION.

      6) ALL UNDERGROUND UTILITIES (OTHER THAN RESIDENTIAL TELEPHONE, CABLE TV AND 24 VOLT DC POWER LINES) MAY REQUIRE PLASTIC IDENTIFICATION TAPE INSTALLED NO CLOSER THAN EIGHTEEN (18) INCHES ABOVE THE LINE.

   b. WATER OR FORCED SEWER LINES

      ALL WATER AND SEWER I INES SHALL BE EITHER (1) DUCTILE IRON OR STEEL CASING (COATED TO PROTECT IT FROM ETC'S CATHODIC PROTECTION) OR (2) ENCASED PLASTIC SCHEDULE 80 PVC FOR A MINIMUM OF 5-FEET ON EITHER SIDE OF ANY ETC PIPELINE OR RELATED FACILITIES. FORCED SEWER LINES SHALL HAVE NO PIPING CONNECTIONS LOCATED WITHIN 5-FEET OF ANY ETC PIPELINE OR RELATED FACILITIES OR PLACED WITHIN ETC'S PIPELINE EASEMENT.

   C. COMMUNICATION, POWER OR COMBUSTIBLE MATERIAL LINES

      1) ALL UNDERGROUND FIBER OPTIC CABLES, TELEPHONE AND TELEVISION CABLES (OTHER THAN RESIDENTIAL TELEPHONE AND CABLE TV) CROSSING ETC'S PIPELINE FACILITY SHALL BE EITHER INSTALLED IN RIGID STEEL CONDUIT OR SCHEDULE 80 PVC CONDUIT ENCASED IN ORANGE CONCRETE (4-INCHES THICK IN ALL DIRECTIONS) FOR THE FULL WIDTH OF THE RIGHT-OF}WAY.

      2) ALL UNDERGROUND ELECTRIC CABLES EXCEPT 24 VOLT DC POWER LINES (INCLUDING SINGLE RESIDENTIAL SERVICE DROPS) CROSSING ETC'S FACILITIES SHALL BE EITHER INSTALLED IN RIGID STEEL CONDUIT OR SCHEDULE 80 PVC CONDUIT ENCASED IN RED CONCRETE (4-INCHES IN ALL DIRECTIONS) FOR THE FULL WIDTH OF THE RIGHT-OF-WAY.

      3) ETC RECOMMENDS THAT ALL UNDERGROUND RESIDENTIAL TELEPHONE, CABLE TV AND 24 VOLT DC POWER LINES BE ENCASED IN PLASTIC CONDUIT FOR THE FULL WIDTH OF THE RIGHTOF-WAY.

9. PROPOSED ROADS: STREETS, DRIVEWAYS, ACCESS WAYS AND PARKING LOTS

   a. LOAD STRESS WILL BE CALCULATED BY ETC TO DETERMINE IF ANY PROTECTION OF THE PIPELINE IS REQUIRED FOR ROADWAYS, STREETS, DRIVEWAYS, ACCESS WAYS, ETC., PLANNED TO CROSS ETC'S PIPELINE FACILITY. IN THE EVENT IT IS DETERMINED BY ETC THAT THE ROADWAYS, STREETS, DRIVEWAYS, ACCESS WAYS, ETC., WILL INCREASE A RISK TO THE PUBLIC OR INCREASE A RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO ETC'S PIPELINE FACILITY, ETC MAY REQUIRE, AT THE SOLE COST AND EXPENSE OF THE PARTY REQUESTING SUCH CROSSING, THE INSTALLATION OF PROTECTIVE MATERIAL AS MAY BE DEEMED NECESSARY BY ETC TO PROTECT THE PUBLIC OR ETC'S PIPELINE FACILITY.

   b. THE PREFERRED MINIMUM EARTH COVER OVER ETC'S PIPELINE FACILITY IS FORTY-EIGHT (48) INCHES AT ALL ROADWAYS, STREETS, DRIVEWAYS, ACCESS WAYS, ETC., INCLUDING ADJACENT DITCH LINES. IN THE EVENT THAT ETC DETERMINES THAT A LESSER COVER WILL NOT INCREASE A RISK TO THE PUBLIC OR INCREASE A RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO THE PIPELINE OR RELATED FACILITIES, ETC MAY ALLOW A LESSER EARTH COVER, IN A MINIMUM AMOUNT AS DETERMINED SOLELY WITHIN THE DISCRETION OF ETC. IN THE EVENT THE REQUIRED AMOUNT OF COVER IS NOT OBTAINABLE AS REFLECTED IN FINALIZED PLAN AND PROFILE DRAWINGS, ETC MAY REQUIRE THE INSTALLATION OF PROTECTIVE MATERIAL AT NO EXPENSE TO ETC. COVER SHALL BE MEASURED FROM THE TOP OF ETC'S PIPELINE TO THE SURFACE OFTHE ROAD.

   c. ROADS AND STREETS CROSSING OVER ETC'S PIPELINE FACILITY SHALL CROSS AT AN ANGLE OF NOT LESS THAN FORTY-FIVE DEGREES (45°), OR AS NEAR AS POSSIBLE THERETO. CROSSINGS SHOULD BE OVER STRAIGHT PIPE AND AT LOCATIONS FREE OF ANY CROSSOVERS. LONGITUDINAL OCCUPANCY OF THE RIGHTOF-WAY WILL NOT BE PERMITTED.

   d. NO PARKING AREAS OR THE LIKE WILL BE ALLOWED ON, OVER OR ACROSS ETC' S PIPELINE FACILITY UNLESS ETC DETERMINES THAT THE PARKING AREAS, ETC. WILL NOT INCREASE A RISK OR RESTRAIN ACCESS TO ITS FACILITIES, INCREASE A RISK TO THE PUBLIC AND/OR INCREASE A RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO THE FACILITIES AND THE PARTY REQUESTING SUCH CROSSING INSTALLS, AT ITS SOLE COST AND EXPENSE, ANY PROTECTIVE MATERIAL AS DEEMED NECESSARY BY ETC TO PROTECT THE PUBLIC OR ETC'S PIPELINE FACILITY.

   e. PERMANENT PIPELINE MARKER(S), PROVIDED BY ETC, WILL BE INSTALLED AT ALL ROAD CROSSINGS.

10. DISPOSAL SYSTEMS

    NO AEROBIC SEPTIC SYSTEMS, SEPTIC TANKS, LIQUID DISPOSAL SYSTEMS, OR HAZARDOUS WASTE DISPOSAL SYSTEMS WILL BE ALLOWED ON ETC'S PIPELINE FACILITY OR WITHIN TWENTY-FIVE (25) FEET OF ETC'S PIPELINE FACILITY, UNLESS OTHERWISE AGREED TO IN WRITING BY ETC. THIS WILL INCLUDE, BUT IS NOT LIMITED TO, AFFLUENT FROM SEWAGE DISPOSAL SYSTEMS, THE DISCHARGE OF ANY HYDROCARBON SUBSTANCE, THE DISCHARGE OR DISPOSAL OF ANY REGULATED WASTE, OR ANY OTHER DISCHARGE THAT MAY PROVE DAMAGING OR CORROSIVE TO ETC'S PIPELINE FACILITY.

11. IMPOUNDMENT OF WATER

    A. IN ORDER TO PROVIDE FOR THE ADEQUATE MAINTENANCE AND OPERATION OF ETC'S PIPELINE FACILITY, THE IMPOUNDMENT OF WATER ON ETC'S PIPELINE FACILITY WILL NOT BE ALLOWED.

    B. TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES AND STORM WATER DETENTION BASINS/TRAPS WILL NOT BE PERMITTED ON ETC'S PIPELINE FACILITY UNLESS OTHERWISE AGREED TO IN WRITING BY ETC.

12. BLASTING

    TO THE EXTENT IT IMPACTS THE LATERAL STABILITY OR OTHERWISE ENDANGERS OR INTERFERES WITH THE EFFICIENCY, SAFETY, OR CONVENIENT OPERATION OF ETC'S PIPELINE FACILITY, NO EXPLOSIVE DETONATIONS WILL BE PERMITTED WITHIN 300-FEET OF ETC'S PIPELINE FACILITY WITHOUT: (1) PRIOR ANALYSIS AND WRITTEN APPROVAL FROM ETC AND (2) ETC' S REPRESENTATIVE ON SITE DURING BLASTING. TO DETERMINE IF THE DETONATION STRESSES WILL BE DETRIMENTAL TO THE SAFETY OF ETC'S PIPELINE FACILITY, INFORMATION REQUIRED TO COMPLETE ETC'S "BLASTING DATA SHEET" MUST BE SUBMITTED TO ETC FOR EVALUATION AND APPROVAL NO LESS THAN 30 DAYS PRIOR TO THE PROPOSED DATE OF BLASTING ACTIVITY. THE CONTRACTOR PERFORMING THE BLASTING WILL BE REQUIRED TO VERIFY BY SIGNATURE THE PROPOSED BLASTING PLAN.

13. LANDSCAPING & IRRIGATION SYSTEMS

    LANDSCAPING WITHIN ETC'S PIPELINE FACILITY IS LIMITED TO LAWN AND LOW GROWING (LESS THAN THREE 3-FEET AT MATURITY), SHALLOW ROOTED SHRUBBERY. UNLESS OTHERWISE AGREED TO IN WRITING BY ETC AND THE PAL1Y REQUESTING SUCH CROSSING IN AN ENCROACHMENT AGREEMENT, PLANTING OF SHRUBBERY AND INSTALLATION OF IRRIGATION SYSTEMS WITHIN ETC'S PIPELINE FACILITY SHALL BE AT THE RISK OF THE LANDOWNER AND, IN ANY EVENT, WILL NOT BE PERMITTED CLOSER THAN FIVE (5) FEET FROM EITHER SIDE OF ETC'S PIPELINE OR RELATED FACILITIES. IRRIGATION SYSTEMS SHALL NOT BE DIRECTLY INSTALLED LONGITUDINALLY OVER ETC'S PIPELINE FACILITY AND SHALL NOT BE BURIED DEEPER THAN 12-INCHES, REGARDLESS OF LOCATION, FROM THE SURFACE OF THE GROUND WITHIN ETC'S PIPELINE FACILITY. NO TREES OR CREPE MYRTLES (UNLESS DWARF VARIETY) ARE PERMITTED.

14. PIPELINE MARKERS

    THE PARTY REQUEST SUCH CROSSING WILL ENSURE THAT ALL TEMPORARY AND PERMANENT PIPELINE MARKERS INSTALLED BY ETC ARE PROTECTED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION OR CROSSING RELATED ACTIVITY. ANY PERMANENT MARKERS DAMAGED OR REMOVED WILL BE REPLACED BY ETC AT THE SOLE EXPENSE OF THE PARTY REQUESTING SUCH CROSSING. NO WORK WILL BE ALLOWED TO COMMENCE UNTIL, IN THE OPINION OF ETC, SUFFICIENT PIPELINE MARKERS ARE IN PLACE. UNAUTHORIZED DAMAGE OR REMOVAL OF PIPELINE MARKERS IS PUNISHABLE BY FEDERAL LAW.

15. RIGHT OF INGRESS AND EGRESS

    THE PARTY REQUESTING SUCH CROSSING SHALL HAVE THE RIGHT TO INSTALL FENCES ON, OVER AND ACROSS THE FACILITIES, PROVIDED, HOWEVER, THAT ETC SHALL HAVE THE UNRESTRICTED RIGHT OF INGRESS AND EGRESS TO ITS FACILITIES AT ALL TIMES. ETC, AT ITS SOLE OPTION AND DISCRETION, MAY REQUIRE THE PARTY REQUESTING SUCH CROSSING TO INSTALL, AT ITS SOLE COST AND EXPENSE AND FOR ETC'S BENEFIT, A WALK GATE AT LEAST THREE (3) FEET IN WIDTH FOR RESIDENTIAL LOTS OR GATE AT LEAST TWELVE (12) FEET IN WIDTH FOR RURAL AREAS AT EACH FENCE CROSSING. ETC SHALL PROVIDE A LOCK FOR SUCH GATE(S). SAID GATE(S) SHALL BE INSTALLED AS TO PROVIDE ETC WITH INGRESS AND EGRESS ACCESS TO ITS PIPELINE OR RELATED FACILITIES AND TO MINIMIZE VEHICULAR AND EQUIPMENT TRAVEL OVER ETC'S PIPELINE OR FACILITIES. THE PARTY REQUESTING SUCH CROSSING SHALL BE RESPONSIBLE FOR KEEPING THE ENCLOSED PORTION OF ETC'S PIPELINE OR RELATED FACILITIES FREE OF ANY DEBRIS OR TRASH. ETC'S PIPELINE OR RELATED FACILITIES SHALL BE POSITIVELY LOCATED BY ETC BEFORE ANY FENCES ARE CONSTRUCTED OR INSTALLED NEAR ETC'S PIPELINE OR RELATED FACILITIES. POST HOLE EXCAVATIONS FOR FENCING PLACED UPON ETC'S PIPELINE OR RELATED FACILITIES SHALL NOT BE GREATER THAN A DEPTH OF EIGHTEEN INCHES (18") BELOW THE UNDISTURBED GRADE LEVEL NOR CLOSER THAN FIVE FEET (5') HORIZONTALLY FROM ETC'S PIPELINE OR RELATED FACILITIES, UNLESS APPROVED IN WRITING BY ETC. NO OTHER EXCAVATIONS OF ANY KIND MAY BE MADE IN THE PIPELINE OR RELATED FACILITIES WITHOUT THE PRIOR WRITTEN CONSENT OF ETC.

16. STATEMENT REGARDING EXISTING RIGHTS

    NOTHING CONTAINED HEREIN SHALL BE CONSTRUED TO CONVEY, WAIVE, OR SUBORDINATE ANY OF ETC'S EXISTING RIGHTS WHATSOEVER. SHOULD A CONFLICT EXIST WITH THE LANGUAGE CONTAINED IN ANY ETC ENCROACHMENT AGREEMENT, EASEMENT, OR PETITION IN CONDEMNATION AND THESE GUIDELINES, ETC'S ENCROACHMENT AGREEMENT, EASEMENT, OR PETITION IN CONDEMNATION SHALL CONTROL AND BE DECISIVE OF THE ISSUE.

17. STATEMENTS REGARDING GUIDELINES FOR CONSTRUCTION AND MAINTENANCE

    CERTAIN CONSTRUCTION AND MAINTENANCE ACTIVITIES MAY BE REVIEWED AND APPROVED BY ETC AT ONE POINT IN TIME, BUT NOT IMMEDIATELY INSTALLED OR PERFORMED. THEREFORE, ALL CONSTRUCTION AND MAINTENANCE ACTIVITIES ARE SUBJECT TO THE GUIDELINES IN AFFECT AT THE TIME THE WORK ACTUALLY TAKES PLACE. IN ADDITION, THE GUIDELINES DESCRIBED IN THIS DOCUMENT REPRESENT THOSE INDUSTRY STANDARDS THAT ETC BELIEVES MEET THE MINIMUM ACCEPTABLE STANDARDS REGARDING THIRD-PARTY CONSTRUCTION AND MAINTENANCE ACTIVITIES IN THE VICINITY OF ETC'S PIPELINE FACILITY. THEREFORE, AFTER REVIEW OF THE FINAL PLAN AND PROFILE DRAWINGS, ETC MAY, IN THE EVENT THAT ETC DETERMINES THE CONSTRUCTION AND MAINTENANCE ACTIVITIES WILL INCREASE A RISK TO THE PUBLIC OR INCREASE A RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO ETC'S PIPELINE FACILITY, REQUIRE FORTIFICATIONS IN FUT1HERANCE OF THE TEXAS HEALTH AND SAFETY CODE. THE PARTY REQUESTING SUCH CROSSING AGREES TO ALTER, MODIFY OR HALT ANY CONSTRUCTION ACTIVITY, WHICH IN THE SOLE OPINION OF ETC'S, WILL INCREASE THE RISK TO THE PUBLIC OR INCREASE THE RISK OF A BREAK, LEAK, RUPTURE OR OTHER DAMAGE TO ETC'S PIPELINE FACILITY.

ALL WRITTEN CORRESPONDENCES AND YOUR FINAL DESIGN PLANS ARE TO BE ADDRESSED TO:

ENERGY TRANSFER COMPANY
711 LOUISIANA STREET, SUITE 900
HOUSTON, TEXAS, 77002-5600
ATTENTION: ENCROACHMENT DEPARTMENT

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED (signature) ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER (signature) 12-13-14	TRAFFIC & TRANSPORTATION
WASTEWATER (signature) 4-8-14	STORM WATER QUALITY
STORM (signature) 4.15.14	FACILITIES (signature) 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : NTS
VERT :

52149
CITY DRAWING NUMBER

SHEET No: 04 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
CONSTRUCTION NOTES (SHEET 2 OF 2)

PROJECT NO: 60194669 (WSD)
CAD DWG FILE: LY-CV-DT
DESIGNED BY: DE
DRAWN BY: JE
DEPT CHECK:
PROJ CHECK:
DATE: NOV 2011
SCALE: NTS

SHEET 04 OF 154

PATH/FILENAME: L:\CIN... 69\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, Nov... 19, 2012 8:41:38 AM
PLOT DATE: Monday, Nov... 19, 2012 8:57:31 AM
ANSI D - 19-Nov-12

CINCO RANCH REUSE WATER SYSTEM — MONUMENT NO. 14008

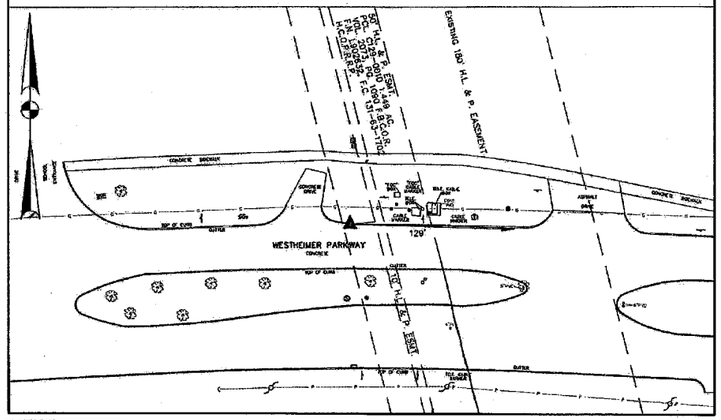
Coordinates: Texas State Plane Datum: NAD 29 & NGDV 29 (78 ADJ)
Coordinate System, South Central Zone

Surface: X=3,035,492.77
Y=707,446.80
Surface to grid scale factor: 0.9998869901

Elevation = 100.01

Type of Monument: 1.5" BRASS CAP IN NW CORNER OF INLET

Location: 1702' west of the intersection of Fry Road and Westheimer Parkway; on an inlet on the north side of Westheimer Parkway and 129' west of the centerline of a 180' HL&P easement.



CINCO RANCH REUSE WATER SYSTEM — MONUMENT NO. 188

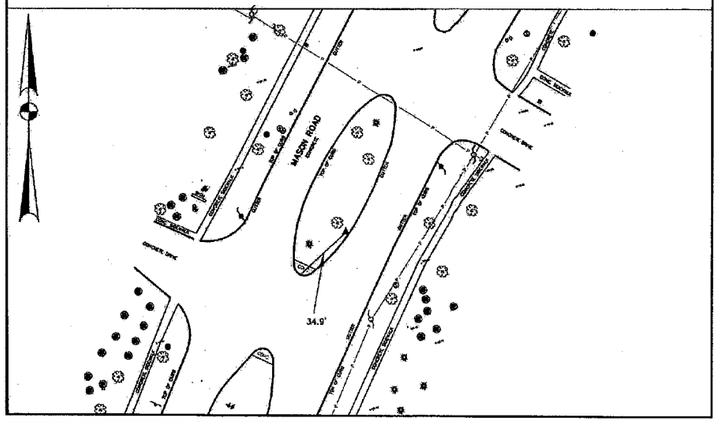
Coordinates: Texas State Plane Datum: NAD 29 & NGDV 29 (78 ADJ)
Coordinate System, South Central Zone

Surface: X=3,030,117.50
Y=705,880.65
Surface to grid scale factor: 0.9998869901

Elevation = 108.49

Type of Monument: 1.5" BRASS CAP

Location: in the median on Mason road 464' north of the intersection of Westheimer Parkway and Mason Road; a brass disk in the east side of median:



CINCO RANCH REUSE WATER SYSTEM — MONUMENT NO. 14003

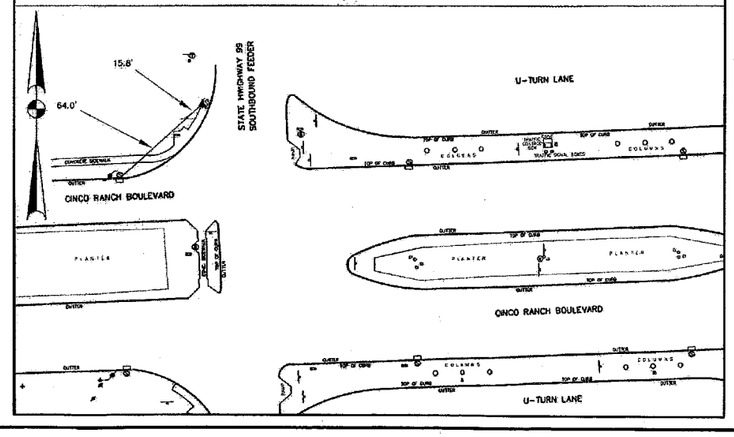
Coordinates: Texas State Plane Datum: NAD 29 & NGDV 29 (78 ADJ)
Coordinate System, South Central Zone

Surface: X=3,024,126.81
Y=708,937.35
Surface to grid scale factor: 0.9998869901

Elevation = 118.81

Type of Monument: IRON ROD

Location: at the intersection of Grand Parkway (SH 99) and Cinco Ranch Boulevard; at the westerly edge of a MH, brass disk in concrete:
64' to the SW cenerline of inlet at back of curb;
15.8' to the SW to a donot enter sign.



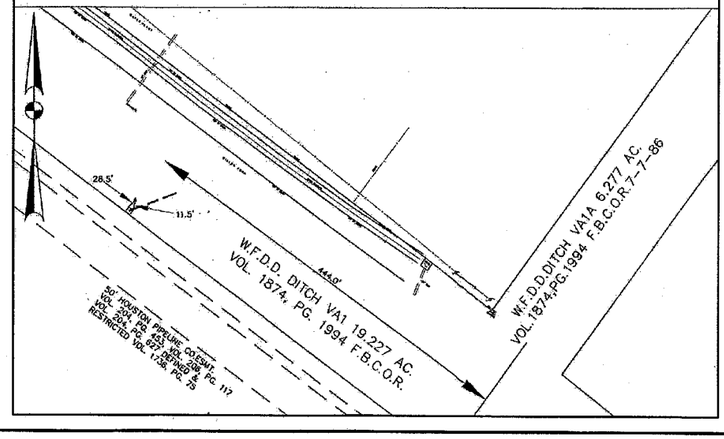
CINCO RANCH REUSE WATER SYSTEM — MONUMENT NO. 14040

Coordinates: Texas State Plane Datum: NAD 29 & NGDV 29 (78 ADJ)
Coordinate System, South Central Zone

Surface: X=3,027,738.54
Y=703,314.11
Surface to grid scale factor: 0.9998869901

Elevation = 103.33'

Type of Monument: 3/4 inch iron rod
Location: 444' northwesterly from the intersection of ditch VA 10 on the southwesterly bank of ditch VA 1;
11.5' to the NE corner of a concrete interceptor;
10.75' to the NW corner of a concrete interceptor;



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 100'
VERT :

SHEET No: 05 OF 154

52149 — CITY DRAWING NUMBER — HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TX 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

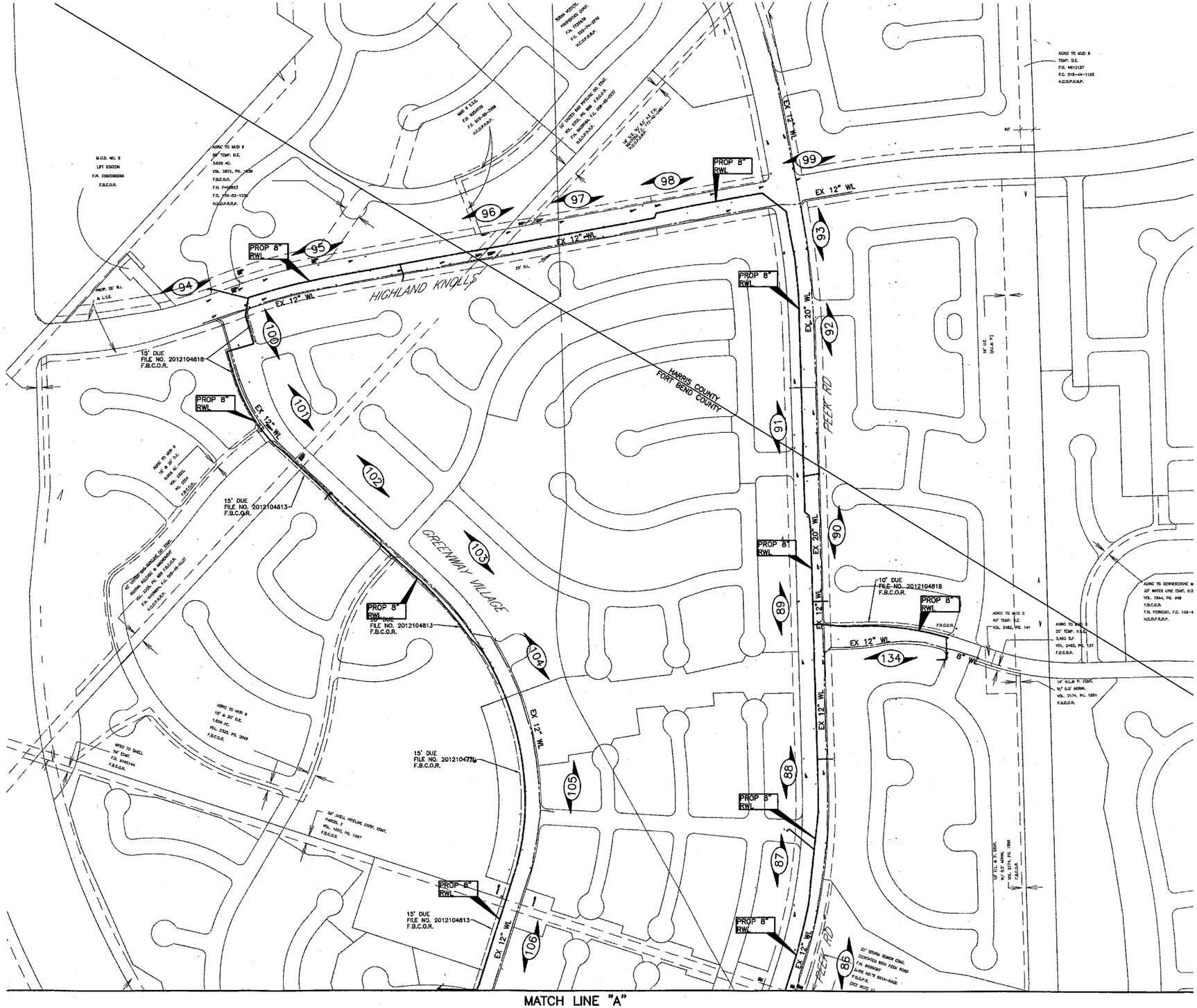
CINCO RANCH RECLAIMED WATER SYSTEM

SURVEY CONTROL & MONUMENT DESCRIPTION LAYOUT

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 100'

SHEET 05 OF 154

PATH/FILENAME: L:\CINC...9\DWG\LY-MISC.DWG
LAST UPDATE: Monday, N...9, 2012 9:15:16 AM
PLOT DATE: Monday, Nov...9, 2012 9:42:58 AM
ANSI D — 19-Nov-12



MATCH LINE "A"

LEGEND

- EXISTING WATER LINE SYSTEM (VALVE — EX WL)
- PROPOSED WATER LINE SYSTEM (VALVE — PROP WL)
- EXISTING MONUMENT
- SOIL BORING (APPROXIMATE LOCATION)
- 18 — SHEET REFERENCE NUMBER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12/13/13	STORM WATER QUALITY
STORM 4-18-14	FACILITIES
STREET & BRIDGE 4.15.14	12.4.12

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 06 OF 154

52149 CITY DRAWING NUMBER — HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 300
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL RECLAIMED WATER LINE LAYOUT (SHEET 1 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 06 OF 154

PATH/FILENAME: L:\DING\...\DWG\LY-MISC.DWG
LAST UPDATE: Monday, ...9, 2012 1:11:24 PM
PLOT DATE: Monday, Nov...d, 2012 1:14:53 PM
ANSI D — 19-Nov-12

MATCH LINE "A"

MATCH LINE "B"

MATCH LINE "F"

LEGEND

- EXISTING WATER LINE SYSTEM (VALVE — EX WL)
- PROPOSED WATER LINE SYSTEM (VALVE — PROP WL)
- EXISTING MONUMENT
- SOIL BORING (APPROXIMATE LOCATION)
- SHEET REFERENCE NUMBER (18)

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1509
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194569, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 9/4/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 200'
VERT :

SHEET No: 07 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL RECLAIMED WATER LINE LAYOUT
(SHEET 2 OF 6)

PROJECT NO:	60194569 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 07 OF 154

PATH/FILENAME: L:\CIN[illegible]9\DWG\LY-MISC.DWG
LAST UPDATE: Monday, [illegible]19, 2012 1:11:24 PM
PLOT DATE: Monday, Nov[illegible]9, 2012 1:15:10 PM
ANSI D - 19-Nov-12

MATCH LINE "B"

MATCH LINE "C"

HARRIS COUNTY
FORT BEND COUNTY

NORTHMOOR DR.

CINCO LAKES DR.

CINCO RANCH BLVD

N. MAIN ST.

LEGEND

- EX WL — EXISTING WATER LINE SYSTEM
- PROP WL — PROPOSED WATER LINE SYSTEM
- EXISTING MONUMENT
- SOIL BORING (APPROXIMATE LOCATION)
- 18 — SHEET REFERENCE NUMBER

NO.	DATE	MADE BY / APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 150, WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

OVERALL RECLAIMED WATER LINE LAYOUT (SHEET 3 OF 6)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.11.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 08 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 08 OF 154

PATH/FILENAME: L:\CINCO\...\59\DWG\LY-MISC.DWG
LAST UPDATE: Monday, Nov 19, 2012 1:11:24 PM
PLOT DATE: Monday, Nov 19, 2012 1:15:27 PM
ANSI D — 19-Nov-12

MATCH LINE "C"

MATCH LINE "D"

LEGEND

- EXISTING WATER LINE SYSTEM
- PROPOSED WATER LINE SYSTEM
- EXISTING MONUMENT
- SOIL BORING (APPROXIMATE LOCATION)
- SHEET REFERENCE NUMBER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 200'
VERT :

SHEET No: 09 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL RECLAIMED WATER LINE LAYOUT
(SHEET 4 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 09 OF 154

PATH/FILENAME: L:\CINCO\DWG\LY-MISC.DWG
LAST UPDATED: Monday, Nov 19, 2012 1:11:24 PM
PLOT DATE: Monday, Nov 19, 2012 1:15:44 PM
ANSI D — 19-Nov-12

MATCH LINE "D"

LEGEND

- VALVE — EX WL — EXISTING WATER LINE SYSTEM
- VALVE — PROP WL — PROPOSED WATER LINE SYSTEM
- EXISTING MONUMENT
- SOIL BORING (APPROXIMATE LOCATION)
- 18 — SHEET REFERENCE NUMBER

WESTHEIMER PARKWAY

16" WWCL

30" WL

EX 12" WL

PROP 12" RWL

24" WWCL

20" WL

HARRIS COUNTY
FORT BEND COUNTY

FRY ROAD

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12/13/12 4-15-14	STORM WATER QUALITY
STORM 4/15/14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 10 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
5/16/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL RECLAIMED WATER LINE LAYOUT (SHEET 5 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 10 OF 154

PATH/FILENAME: L:\CINC...\LY-MISC.DWG
LAST UPDATE: Monday, ...9, 2012 1:11:24 PM
PLOT DATE: Monday, Nov...9, 2012 1:16:01 PM
ANSI D — 19-Nov-12

MATCH LINE "F"

GRAND PARKWAY

DITCH W11

DITCH W12

PEEK RD.

WESTHEIMER PARKWAY

PARKWALK LN.

PROP 12" RWL

PROP 16" RWL

PROP 8" RWL

EX 12" W.L.

20' DUE FILE NO. 2012104768 F.B.C.O.R.

25' DUE & ACCESS ESMT FILE NO. 2012104765 F.B.C.O.R.

10' U.E. F.N. 2000028837 F.B.C.O.R.

10' H.L.& P. ESMT. W/ 10' AERIAL EACH SIDE VOL. 2219, PG. 1176 F.B.C.O.R.

8' H.L.& P. ESMT W/ 7' AERIAL VOL. 2219, PG. F.B.C.O.R.

5' H.L.& P. W/ 7' AERIAL VOL. 2218, F.B.C.O.R.

10' TEMP. D.E. VOL. 2057, PG. 2124 F.B.C.O.R.

15' TEMP. D.E. VOL. 2057, PG. 2124 F.B.C.O.R.

18" S.S.E.

SET-BACK AND LANDSCAPE (SEE NOTE 1)

15' SAN. ESMT. VOL. 1803, PG. F.B.C.O.R.

5' S.S.E. F.N. 2002082828 F.B.C.O.R.

20' LANDSCAPE ESMT. F.N. 9548072 F.B.C.O.R.

20' B.S.L.

25' B.S.L.

112 113 111 120 121 122 123 124 125 126 73 74 75 76 72 136

MATCH LINE "G"

MATCH LINE "G"

LEGEND

VALVE — EX W.L.	EXISTING WATER LINE SYSTEM
VALVE — PROP W.L.	PROPOSED WATER LINE SYSTEM
△	EXISTING MONUMENT
⊕	SOIL BORING (APPROXIMATE LOCATION)
18	SHEET REFERENCE NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL RECLAIMED WATER LINE LAYOUT
(SHEET 6 OF 6)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

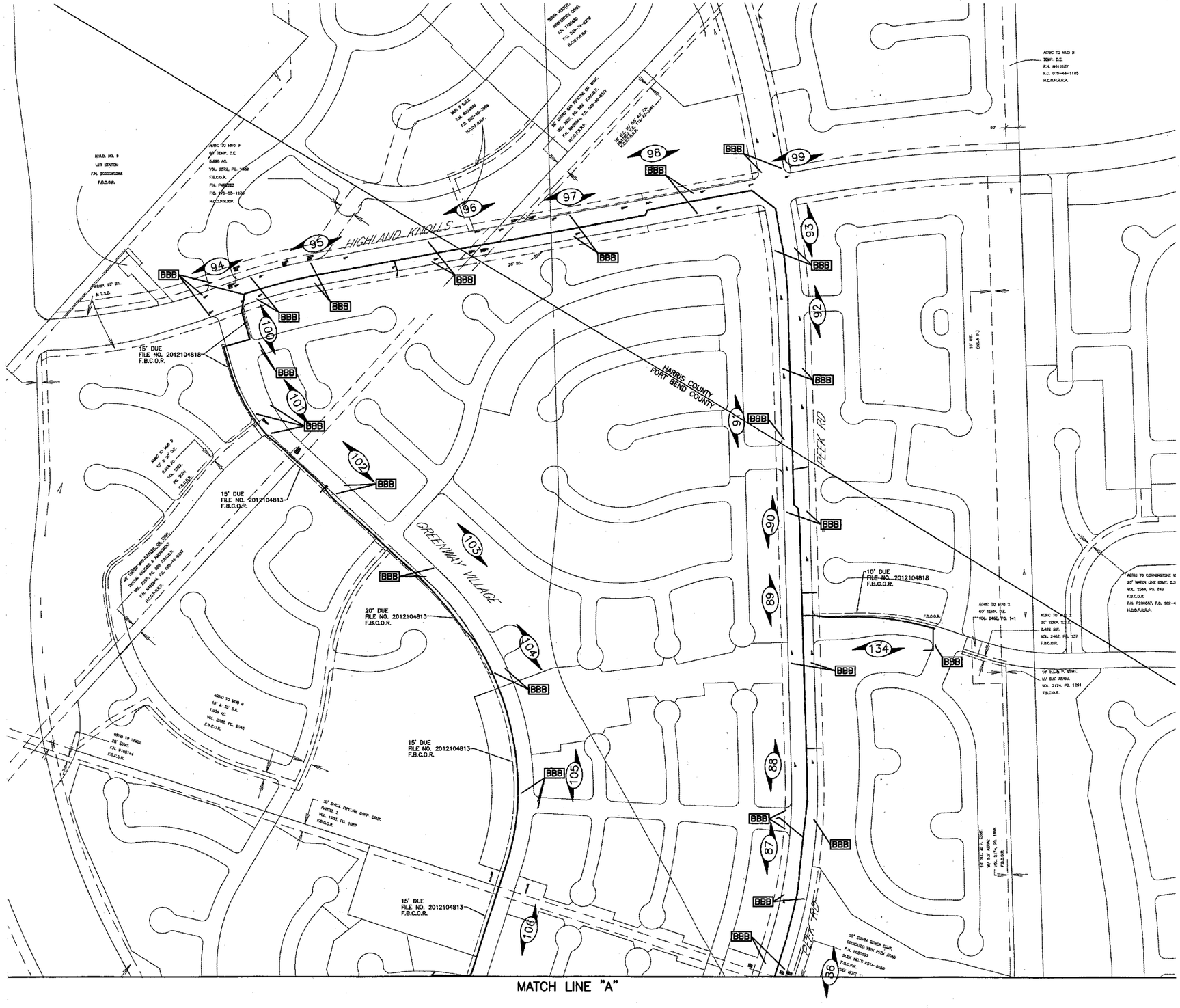
SHEET No: 11 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 11 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\LY-MISC.DWG
LAST UPDATE: Monday, ..., 2012 1:11:24 PM
PLOT DATE: Monday, Nov..., 2012 1:16:18 PM
ANSI D - 19-Nov-12



LEGEND

- INLET
- BBB — BURLAP BAG BARRIER
- RFB — FILTER FABRIC FENCE
- 18 — SHEET REFERENCE NUMBER

POLLUTION PREVENTION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL INSTALL POLLUTION PREVENTION SYSTEMS AT LOCATION SHOWN ON PLANS.
2. IF POLLUTION PREVENTION SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER AND/OR OWNER'S REPRESENTATIVE WITH THE CONTRACTOR SHALL EXAMINE THE EXISTING POLLUTION PREVENTION SYSTEMS FOR DAMAGE PRIOR TO CONTRACTOR STARTING CONSTRUCTION OF THE CONTRACT. ANY DAMAGE NOTED AT THIS TIME SHALL BE REPAIRED AT OWNER'S EXPENSE.
3. CONTRACTOR SHALL INSPECT ALL POLLUTION PREVENTION SYSTEMS SPECIFIED HEREIN, AS REQUIRED IN THE PERMIT.
4. CONTRACTOR SHALL MAINTAIN, REPAIR AND/OR REPLACE DAMAGED EROSION AND SEDIMENTATION CONTROL SYSTEMS THROUGHOUT THE DURATION OF THE CONTRACT.
5. CONTRACTOR SHALL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS AND OTHER POTENTIALLY TOXIC MATERIALS.
6. CONTRACTOR SHALL LOCATE FUEL/MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. CONTRACTOR SHALL USE A LINER UNDER ABOVE GROUND STORAGE TANKS. CONTRACTOR SHALL USE FILTER FABRIC FENCING, HAY BALES, OR BERMS AROUND FUEL STORAGE AREAS.
7. CONTRACTOR SHALL ADVISE OWNER IMMEDIATELY, VERBALLY, AND IN WRITING, OF ANY FUEL OR TOXIC MATERIAL SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TAKEN TO REMEDY THE PROBLEM.
8. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF HIS FUELS, MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
9. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR STREET CLEANING, ON A DAILY BASIS, ALL MUD AND DIRT DEPOSITED ON THE EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY.
12. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT.
13. SEDIMENT WILL BE REMOVED FROM BEHIND THE FILTER FABRIC FENCE WHEN IT BECOMES ABOUT ONE-THIRD OF THE HEIGHT OF THE FENCE.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE HAS BEEN ESTABLISHED, STRUCTURAL CONTROLS WILL BE REMOVED AND DISTURBED AREAS WILL BE RESTABILIZED.
15. AT COMPLETION OF THE CONTRACT, OWNER AND/OR OWNER'S REPRESENTATIVE AND THE CONTRACTOR SHALL EXAMINE THE POLLUTION PREVENTION SYSTEM BEFORE RELIEVING CONTRACTOR OF HIS MAINTENANCE RESPONSIBILITIES.
16. CONTRACTOR IS RESPONSIBLE FOR FILING CONTRACTOR'S NOI AND NOT, WEEKLY INSPECTIONS AND NOTIFICATIONS, INSPECTIONS AFTER 0.5-INCHES OF RAINFALL. THE ENGINEER OR OWNER IS TO BE NOTIFIED OF ANY INADEQUACIES OR FAILURES IN THE STORM WATER POLLUTION PREVENTION PLAN.
17. CONTRACTOR SHALL SUBMIT A COPY OF REQUIRED STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORTS WITH EACH PAYMENT REQUEST. FAILURE TO DO SO MAY RESULT IN A DELAY OF PAYMENT.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-13-13	STORM WATER QUALITY 4-18-14
STORM 4-15-14	FACILITIES 12-4-12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 12 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
REGISTERED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL POLLUTION PREVENTION PLAN (SHEET 1 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

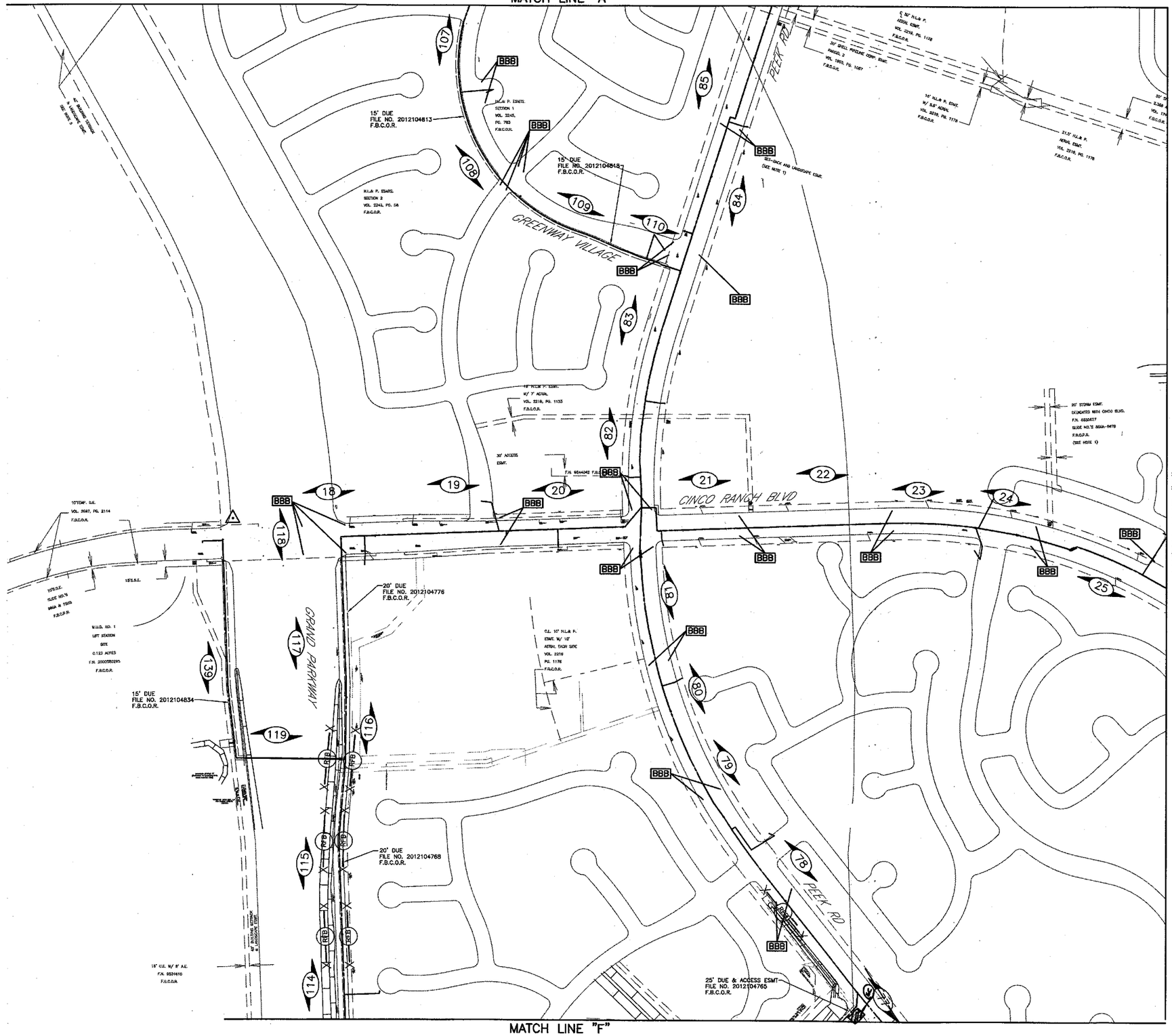
SHEET 12 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\LY-MISC.DWG
LAST UPDATE: Monday, Nov...9, 2012 12:24:43 PM
PLOT DATE: Monday, Nov...9, 2012 12:27:14 PM
ANSI D -- 19-Nov-12

MATCH LINE "A"

MATCH LINE "B"

MATCH LINE "F"



LEGEND

- INLET
- BBB — BURLAP BAG BARRIER
- X—(RFB)—X — FILTER FABRIC FENCE
- 18 — SHEET REFERENCE NUMBER
- SE w/ SCE — STABILIZED CONSTRUCTION ACCESS

POLLUTION PREVENTION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL INSTALL POLLUTION PREVENTION SYSTEMS AT LOCATION SHOWN ON PLANS.
2. IF POLLUTION PREVENTION SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER AND/OR OWNER'S REPRESENTATIVE WITH THE CONTRACTOR SHALL EXAMINE THE EXISTING POLLUTION PREVENTION SYSTEMS FOR DAMAGE PRIOR TO CONTRACTOR STARTING CONSTRUCTION OF THE CONTRACT. ANY DAMAGE NOTED AT THIS TIME SHALL BE REPAIRED AT OWNER'S EXPENSE.
3. CONTRACTOR SHALL INSPECT ALL POLLUTION PREVENTION SYSTEMS SPECIFIED HERIN, AS REQUIRED IN THE PERMIT.
4. CONTRACTOR SHALL MAINTAIN, REPAIR AND/OR REPLACE DAMAGED EROSION AND SEDIMENTATION CONTROL SYSTEMS THROUGHOUT THE DURATION OF THE CONTRACT.
5. CONTRACTOR SHALL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS AND OTHER POTENTIALLY TOXIC MATERIALS.
6. CONTRACTOR SHALL LOCATE FUEL/MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. CONTRACTOR SHALL USE A LINER UNDER ABOVE GROUND STORAGE TANKS. CONTRACTOR SHALL USE FILTER FABRIC FENCING, HAY BALES, OR BERMS AROUND FUEL STORAGE AREAS.
7. CONTRACTOR SHALL ADVISE OWNER IMMEDIATELY, VERBALLY, AND IN WRITING, OF ANY FUEL OR TOXIC MATERIAL SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TAKEN TO REMEDY THE PROBLEM.
8. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF HIS FUELS, MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
9. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR STREET CLEANING, ON A DAILY BASIS, ALL MUD AND DIRT DEPOSITED ON THE EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY.
12. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT.
13. SEDIMENT WILL BE REMOVED FROM BEHIND THE FILTER FABRIC FENCE WHEN IT BECOMES ABOUT ONE-THIRD OF THE HEIGHT OF THE FENCE.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE HAS BEEN ESTABLISHED, STRUCTURAL CONTROLS WILL BE REMOVED AND DISTURBED AREAS WILL BE RESTABILIZED.
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16. CONTRACTOR IS RESPONSIBLE FOR FILING CONTRACTOR'S NOI AND NOT, WEEKLY INSPECTIONS AND NOTIFICATIONS, INSPECTIONS AFTER 0.5-INCHES OF RAINFALL, THE ENGINEER OR OWNER IS TO BE NOTIFIED OF ANY INADEQUACIES OR FAILURES IN THE STORM WATER POLLUTION PREVENTION PLAN.
17. CONTRACTOR SHALL SUBMIT A COPY OF REQUIRED STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORTS WITH EACH PAYMENT REQUEST. FAILURE TO DO SO MAY RESULT IN A DELAY OF PAYMENT.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 6/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 13 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL POLLUTION PREVENTION PLAN (SHEET 2 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 13 OF 154

PATH/FILENAME: L:\CIVIL\LY-MISC.DWG
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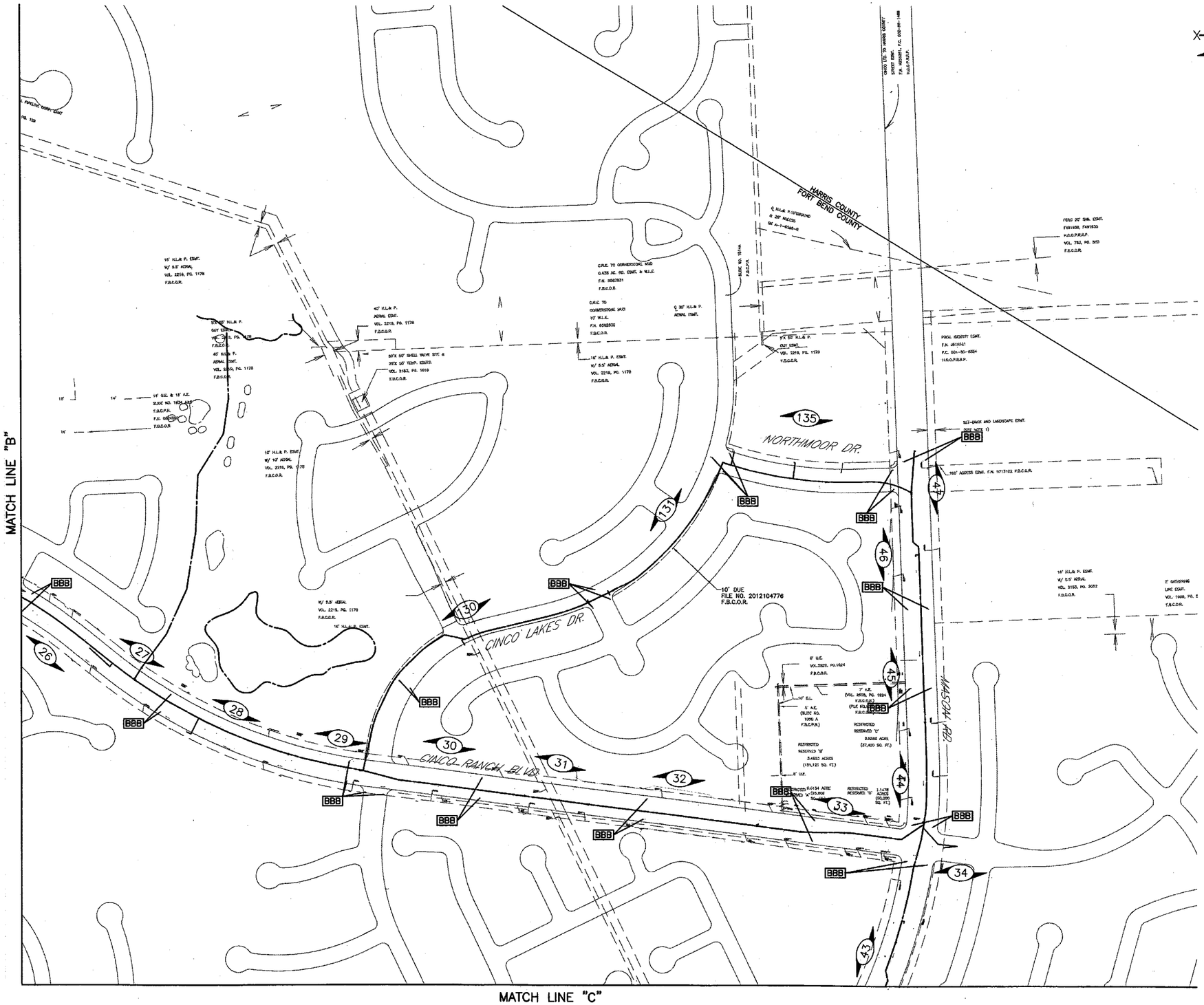
ANSI D - 19-Nov-12



LEGEND

- INLET
- BBB — BURLAP BAG BARRIER
- X—RFB—X — FILTER FABRIC FENCE
- 18 — SHEET REFERENCE NUMBER

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 14 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/12/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL POLLUTION PREVENTION PLAN (SHEET 3 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 14 OF 154

PATH/FILENAME: LY\CINCO\...\69\DWG\LY-MISC.DWG
LAST UPDATE: Monday, Nov. 19, 2012 12:24:43 PM
PLOT DATE: Monday, Nov. 19, 2012 12:27:47 PM
ANSI D - 19-Nov-12

MATCH LINE "C"

MATCH LINE "D"

WESTHEIMER PARKWAY

MASON RD.

FALLBRANCH DR.

WESTENFIELD LN.

KINGSCHAP LN.

MIXED USE SITE
CINCO M.U.D. 1 (UNRESTRICTED RESERVE "A")
6.1488 AC.
VOL. 1969, PG. 1370
F.B.C.O.R.

RESTRICTED COMMERCIAL RESERVE "B"
4.0296 AC.
(214,732 SQ. FT.)

RESTRICTED COMMERCIAL RESERVE "C"
7.0815 AC.
(297,600 SQ. FT.)

RESTRICTED DOMESTIC RESERVE "A"
0.8033 AC.
(35,263 SQ. FT.)

10' DUE
FILE NO. 2012104900
F.B.C.O.R.

10' DUE
FILE NO. 2012104768
F.B.C.O.R.

25' DUE & ACCESS ESMT
FILE NO. 20121104765
F.B.C.O.R.

LEGEND

- INLET
- BBB — BURLAP BAG BARRIER
- X—RFB—X — FILTER FABRIC FENCE
- 18 — SHEET REFERENCE NUMBER

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 15 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL POLLUTION PREVENTION PLAN (SHEET 4 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 15 OF 154

PATH/FILENAME: L:\CIN...\DWG\LY-MISC.DWG
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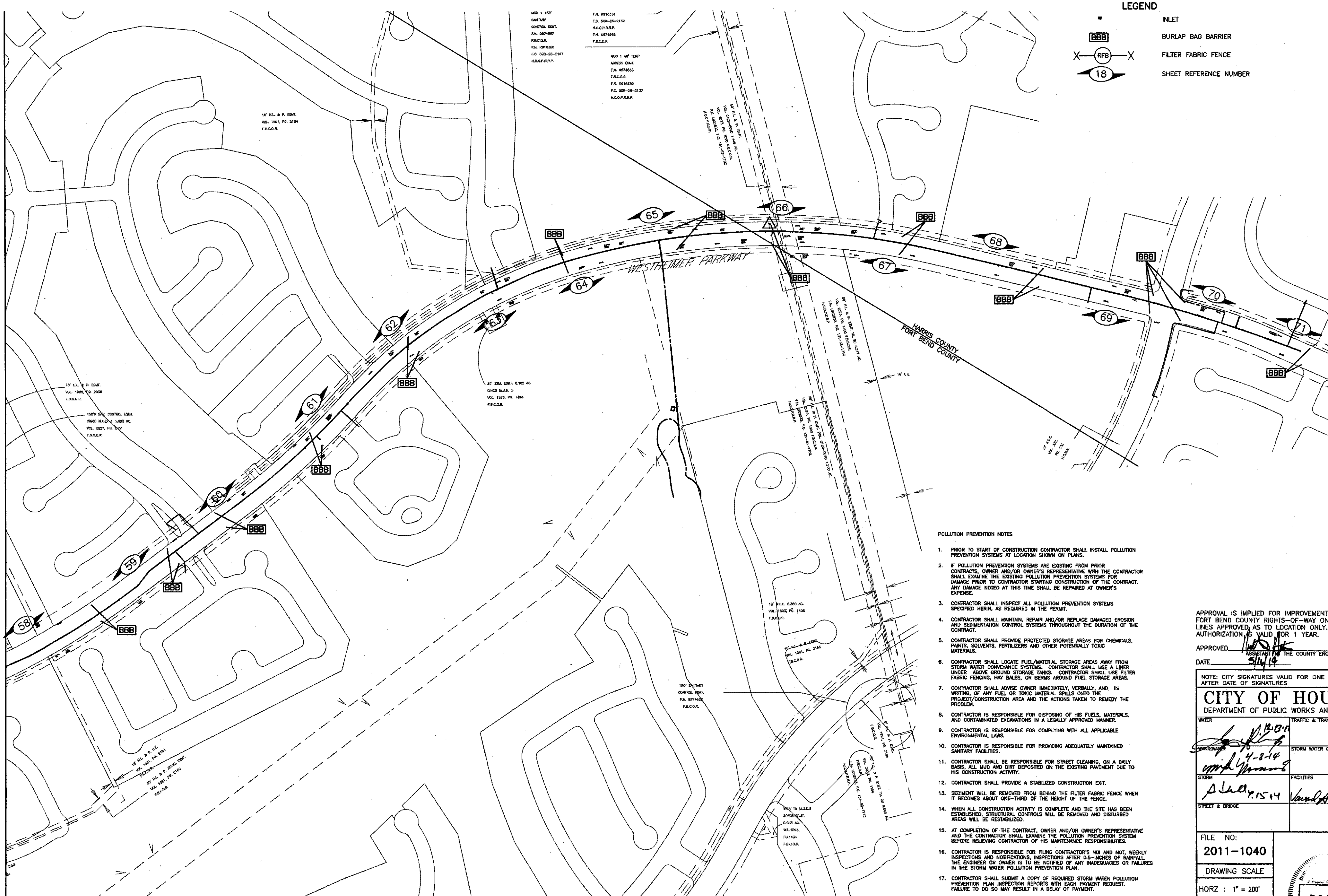
PLOT DATE: Monday, Nov...16, 2012 12:28:04 PM
ANSI D - 19-Nov-12



LEGEND

▪	INLET
BBB	BURLAP BAG BARRIER
X—(RFB)—X	FILTER FABRIC FENCE
(18)	SHEET REFERENCE NUMBER

POLLUTION PREVENTION NOTES

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APPROVED ____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12-4-12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

52149
CITY DRAWING NUMBER

SHEET No: 16 OF 154

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

OVERALL POLLUTION PREVENTION PLAN (SHEET 5 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

PATH/FILENAME: L:\CINCO...\DWG\LY-MISC.DWG
LAST UPDATE: Monday, No..., 2012 12:24:43 PM
PLOT DATE: Monday, November ..., 2012 12:28:21 PM
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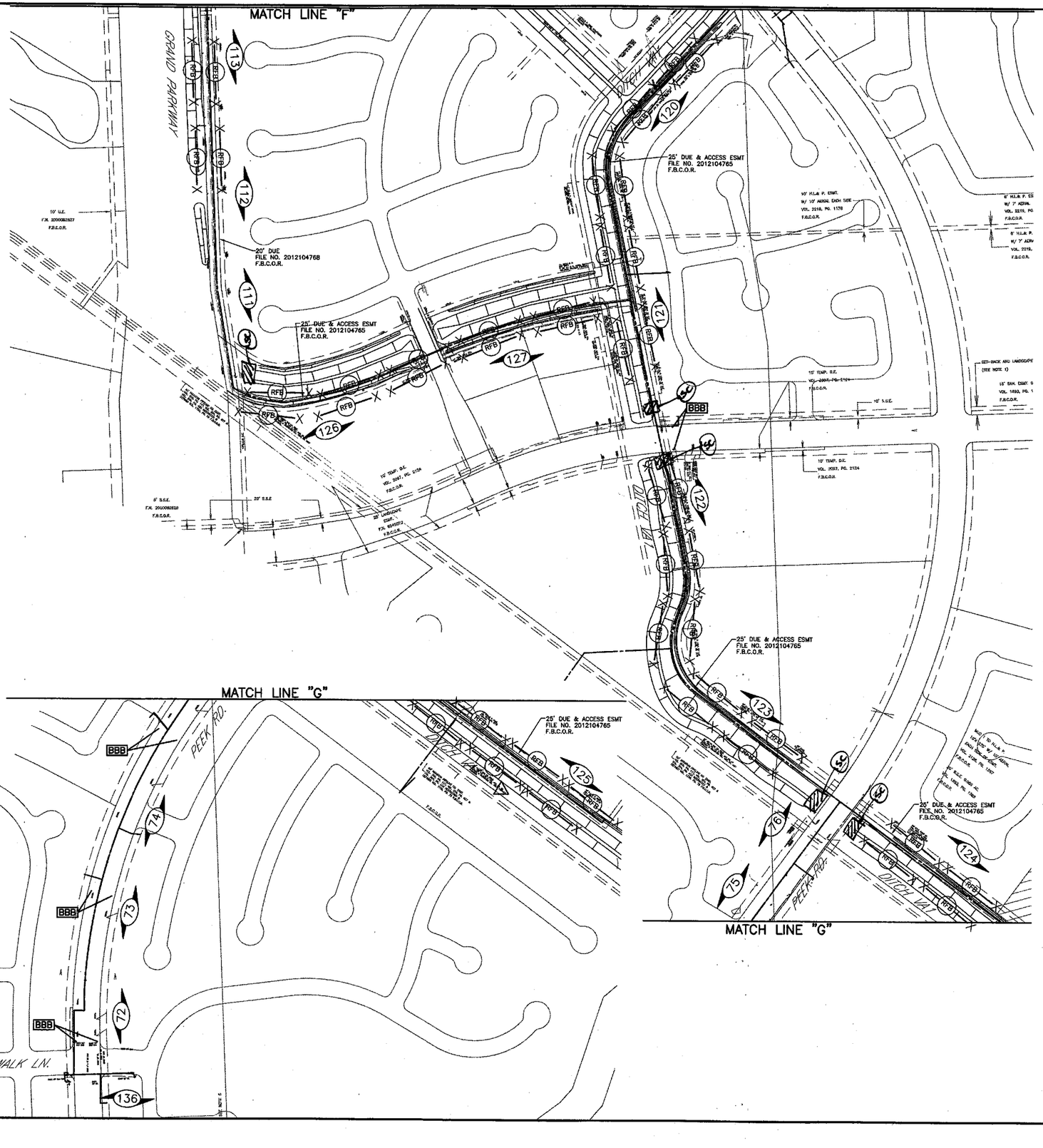

LEGEND

- INLET
- BBB — BURLAP BAG BARRIER
- X—RFB—X — FILTER FABRIC FENCE
- 18 — SHEET REFERENCE NUMBER
- SEC — STABILIZED CONSTRUCTION ACCESS

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8. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF HIS FUELS, MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
9. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR STREET CLEANING, ON A DAILY BASIS, ALL MUD AND DIRT DEPOSITED ON THE EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY.
12. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT.
13. SEDIMENT WILL BE REMOVED FROM BEHIND THE FILTER FABRIC FENCE WHEN IT BECOMES ABOUT ONE-THIRD OF THE HEIGHT OF THE FENCE.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE HAS BEEN ESTABLISHED, STRUCTURAL CONTROLS WILL BE REMOVED AND DISTURBED AREAS WILL BE RESTABILIZED.
15. AT COMPLETION OF THE CONTRACT, OWNER AND/OR OWNER'S REPRESENTATIVE AND THE CONTRACTOR SHALL EXAMINE THE POLLUTION PREVENTION SYSTEM BEFORE RELIEVING CONTRACTOR OF HIS MAINTENANCE RESPONSIBILITIES.
16. CONTRACTOR IS RESPONSIBLE FOR FILING CONTRACTOR'S NOI AND NOT, WEEKLY INSPECTIONS AND NOTIFICATIONS, INSPECTIONS AFTER 0.5-INCHES OF RAINFALL. THE ENGINEER OR OWNER IS TO BE NOTIFIED OF ANY INADEQUACIES OR FAILURES IN THE STORM WATER POLLUTION PREVENTION PLAN.
17. CONTRACTOR SHALL SUBMIT A COPY OF REQUIRED STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORTS WITH EACH PAYMENT REQUEST. FAILURE TO DO SO MAY RESULT IN A DELAY OF PAYMENT.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO.: F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 200'
VERT :

SHEET No: 17 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

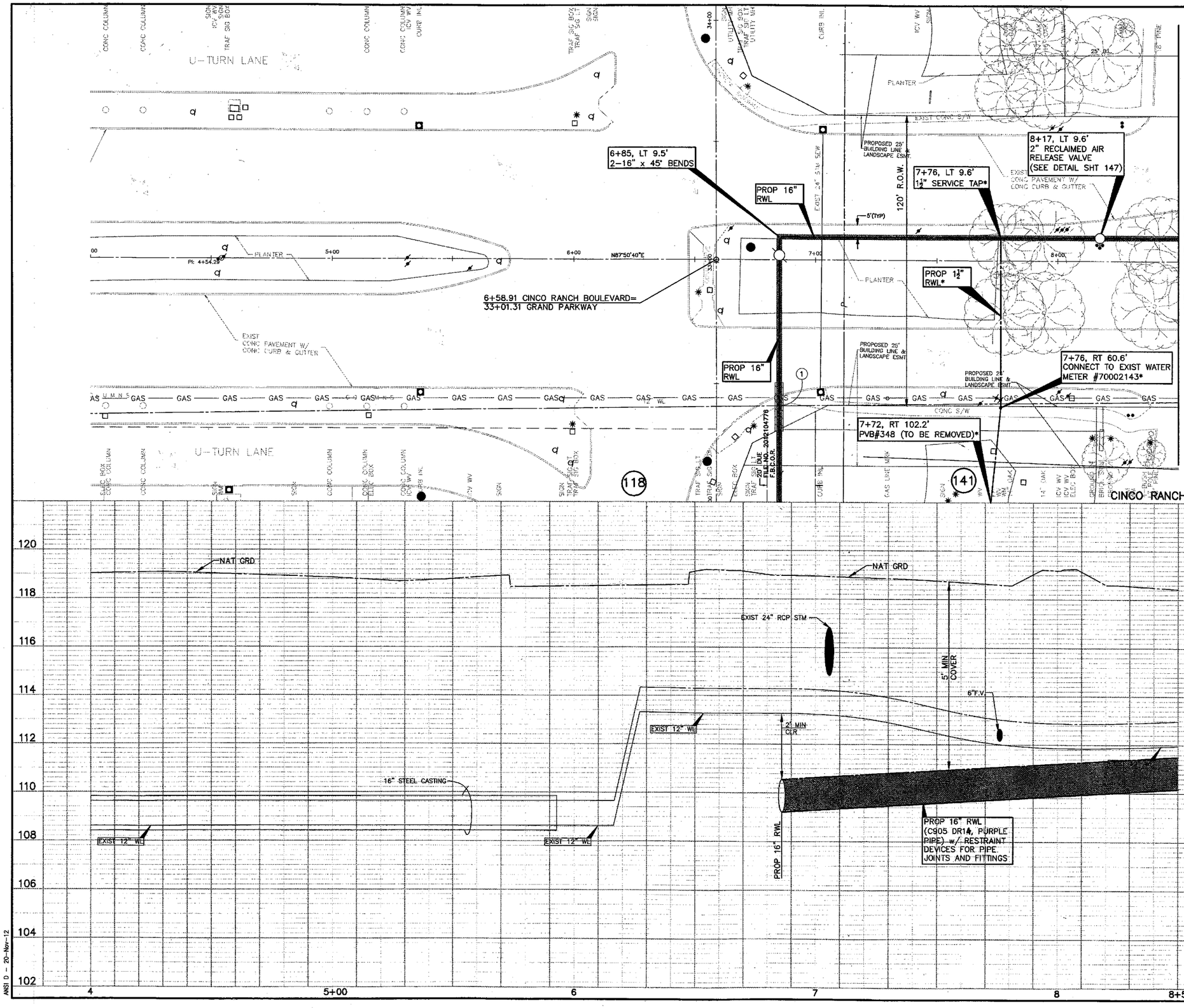
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
OVERALL POLLUTION PREVENTION PLAN (SHEET 6 OF 6)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	1" = 200'

SHEET 17 OF 154

PATH/FILENAME: L:\CINC...\DWGS\LY-MISC.DWG
LAST UPDATE: Monday, N...9, 2012 12:24:43 PM
PLOT DATE: Monday, Novem...9, 2012 12:28:38 PM
ANSI D — 19-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

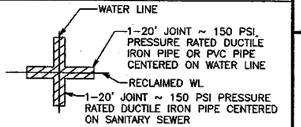
PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED R.W.L.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 18 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO RANCH BOULEVARD (4+00 TO 8+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 18 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-CRB.DWG
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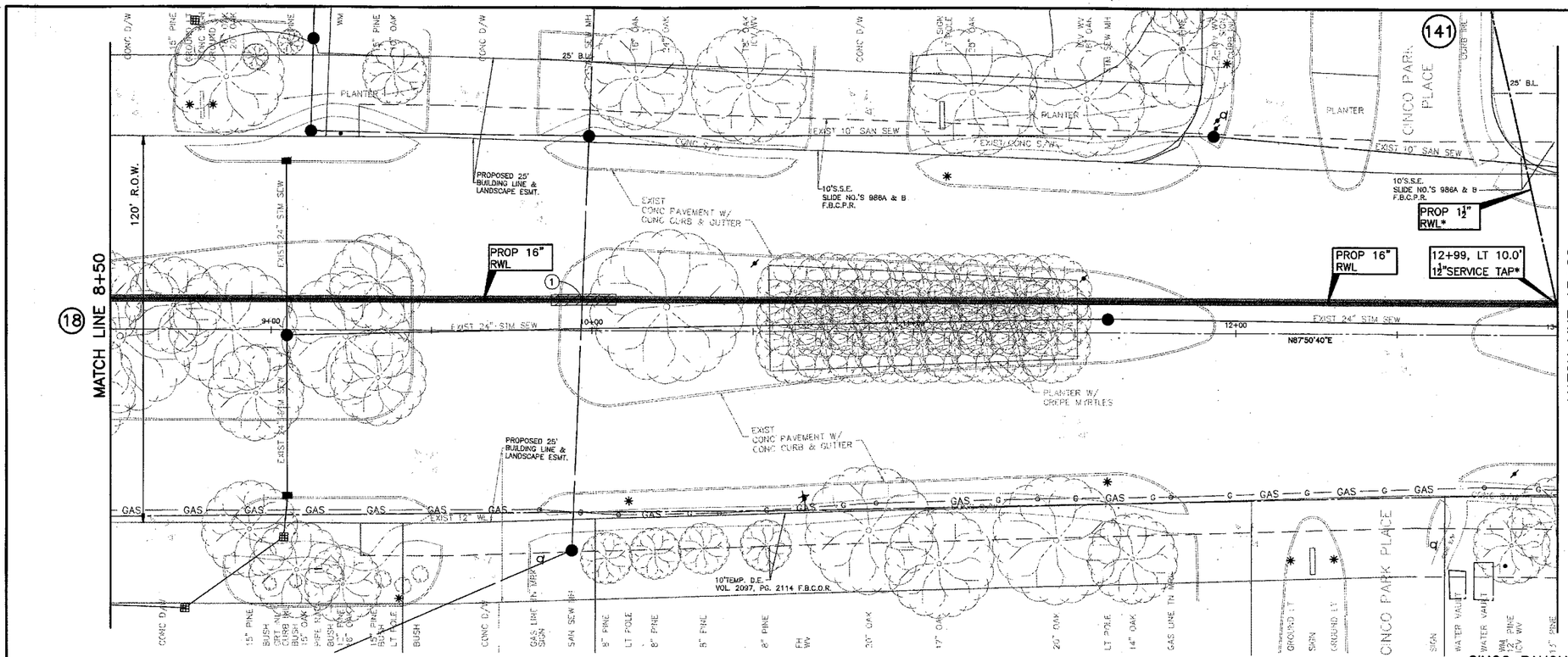
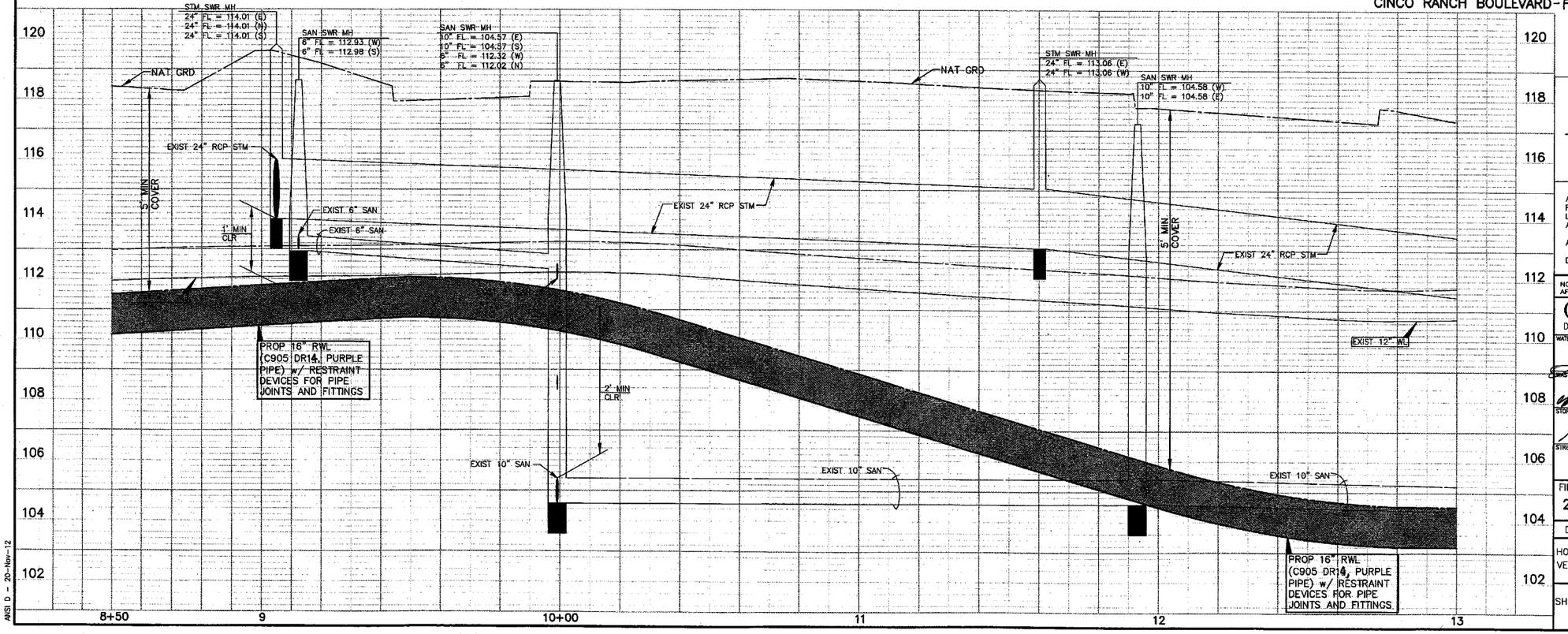
PLOT DATE: Tuesday, Nov. 20, 2012 12:43:41 PM
ANSI D - 20-Nov-12



CINCO RANCH BOULEVARD – FORT BEND



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

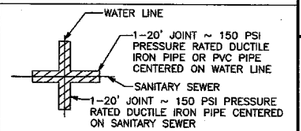
DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLTION OF PROPOSED RWL.

NOTE: (1)

FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 2.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 19 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

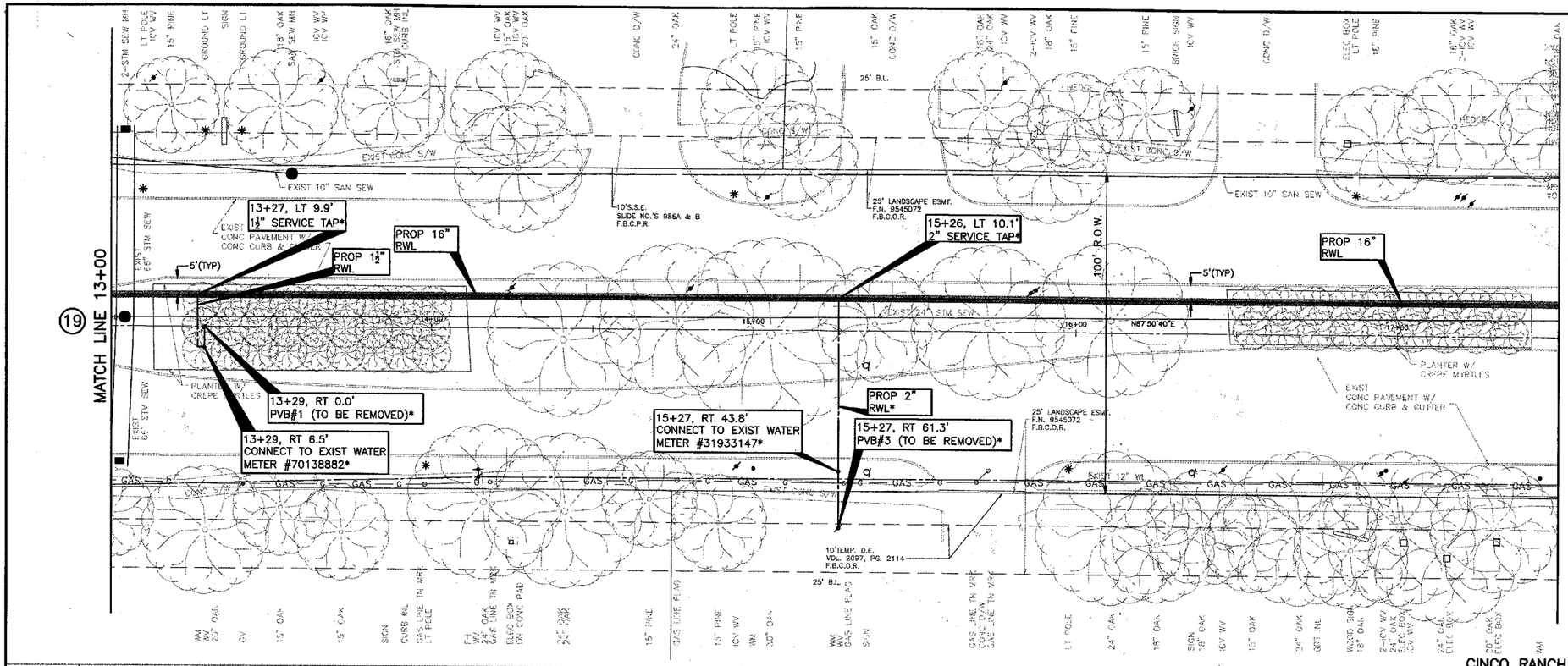
CINCO RANCH RECLAIMED WATER SYSTEM

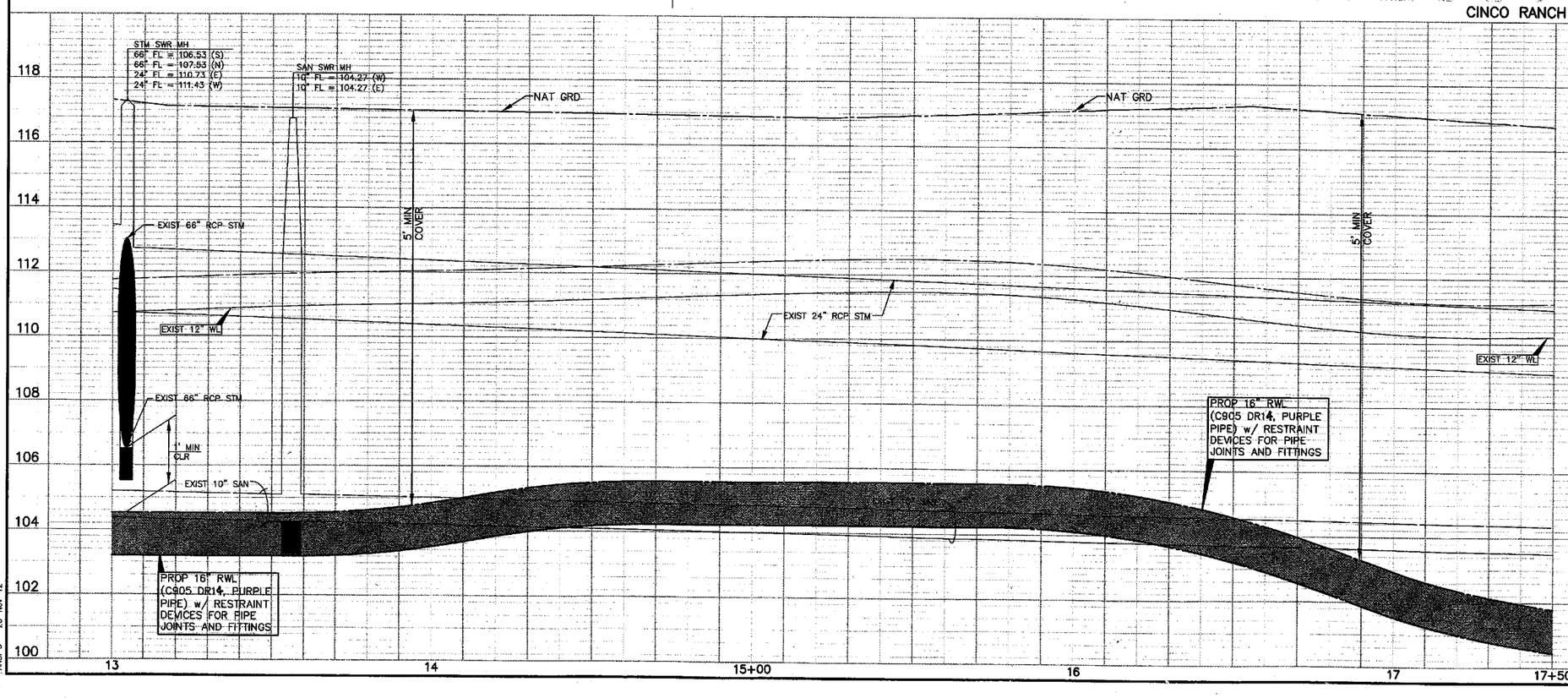
CINCO RANCH BOULEVARD (8+50 TO 13+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 19 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-CRB.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:41:58 PM
PLOT DATE: Tuesday, November 20, 2012 12:44:14 PM
ANSI D - 20-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

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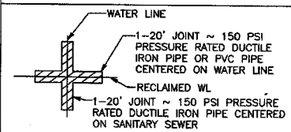
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.4.14	FACILITIES
STREET & BRIDGE	12.4.12

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 20 OF 154

52149 DRAWING NUMBER PLANTO, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
10/24/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (13+00 TO 17+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 20 OF 154

PATH/FILENAME: L:\CINCO\P&P-CRB.DWG
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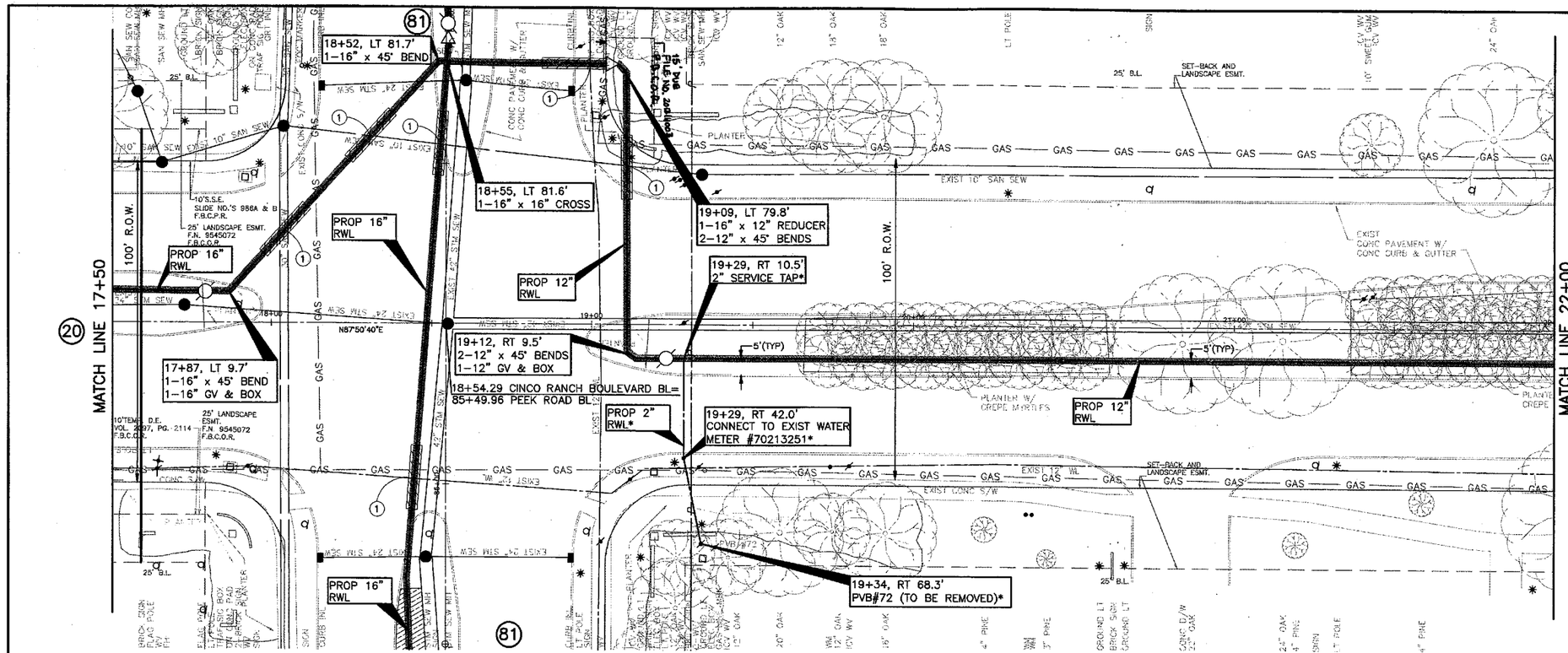
PLOT DATE: Tuesday, November 20, 2012 2:05:00 PM
ANSI D - 20-Nov-12



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CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:

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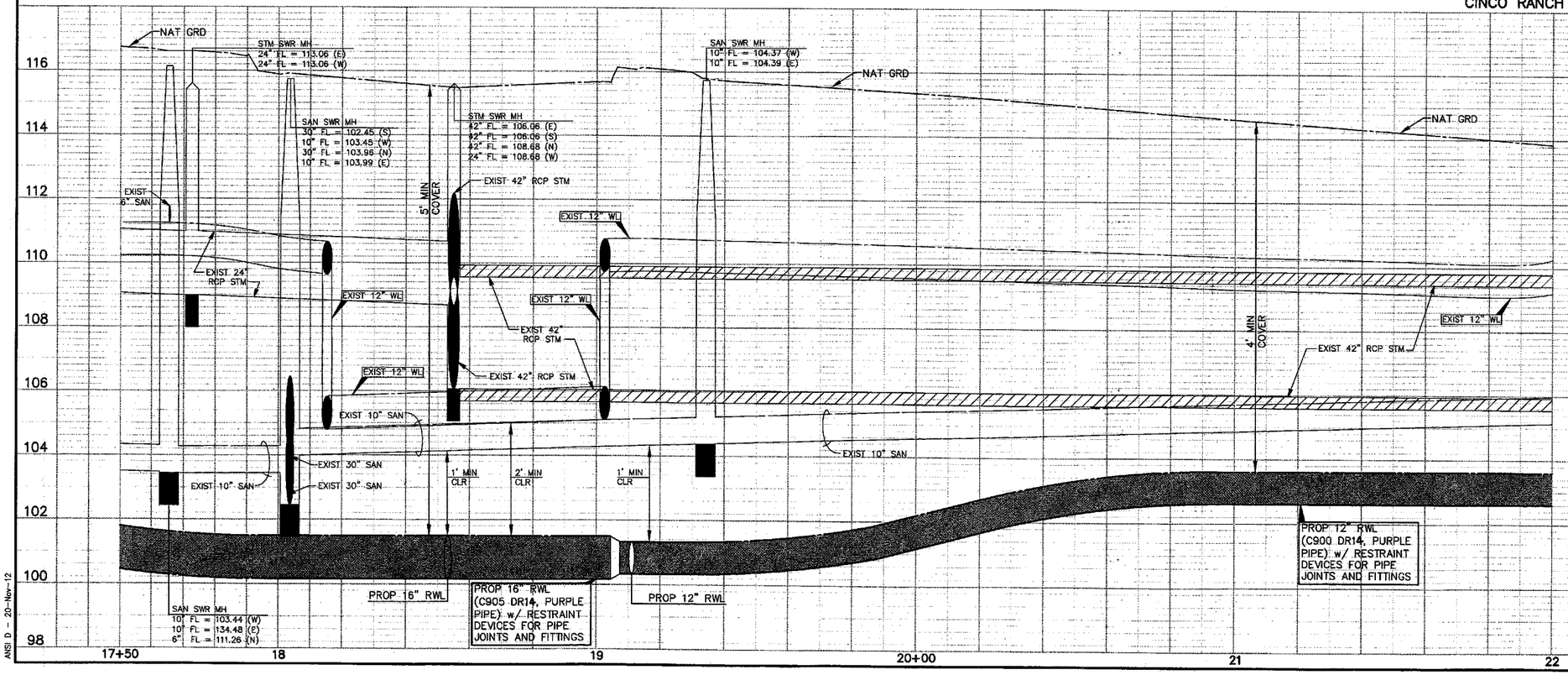

NOTE: (1)

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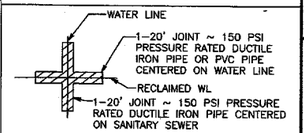


APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES David Amb 12.4.12
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 21 OF 154

52149 CITY DRAWING NUMBER AS-BUILT

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

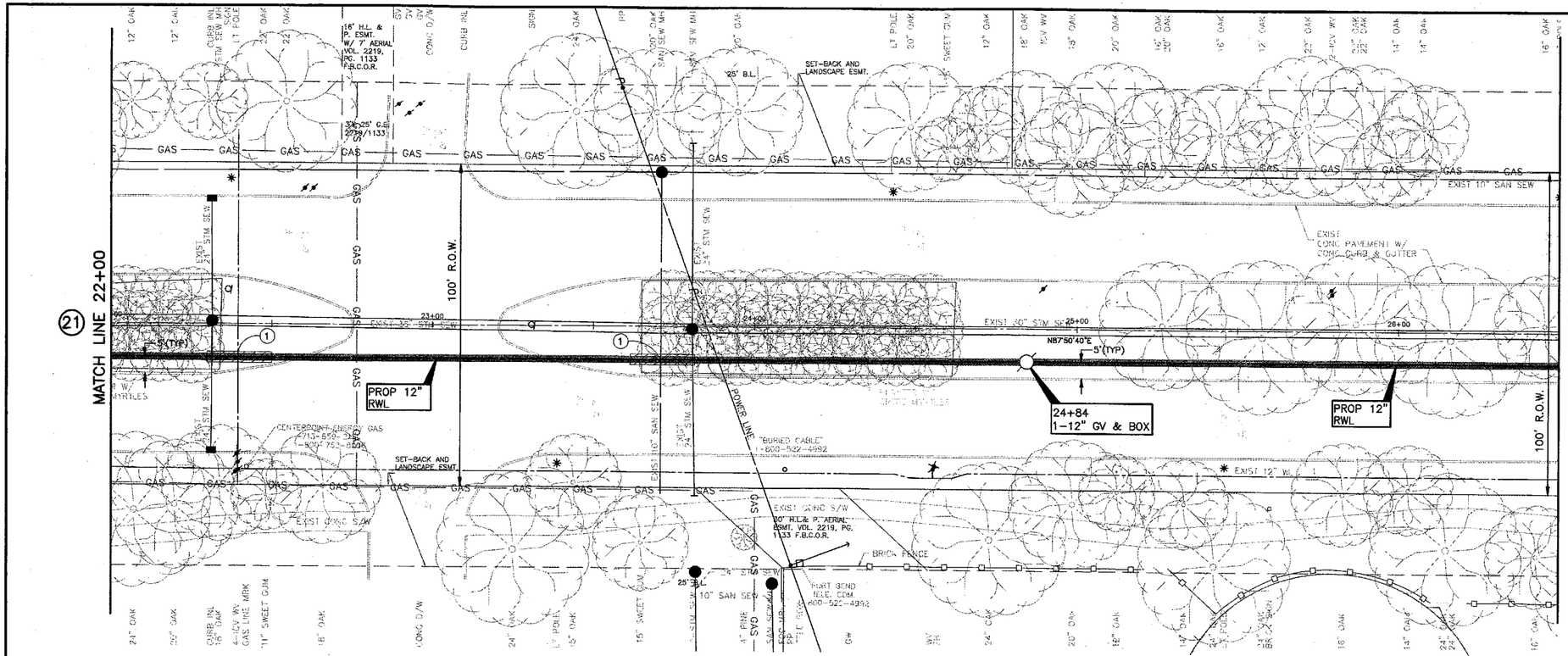
CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (17+50 TO 22+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 21 OF 154

PATH/FILENAME: L:\A CIVIL\901 CWD\P&P–CRB.DWG
LAST UPDATE: Tuesday, November 20, 2012 2:03:20 PM
PLOT DATE: Tuesday, November 20, 2012 2:05:33 PM
ANSI D – 20–Nov–12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

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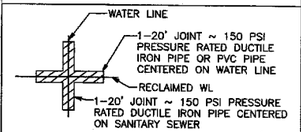
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-18-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	Jawad Hadi 12.4.12

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 22 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 100 WEST
HOUSTON, TEXAS 77057-1569
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

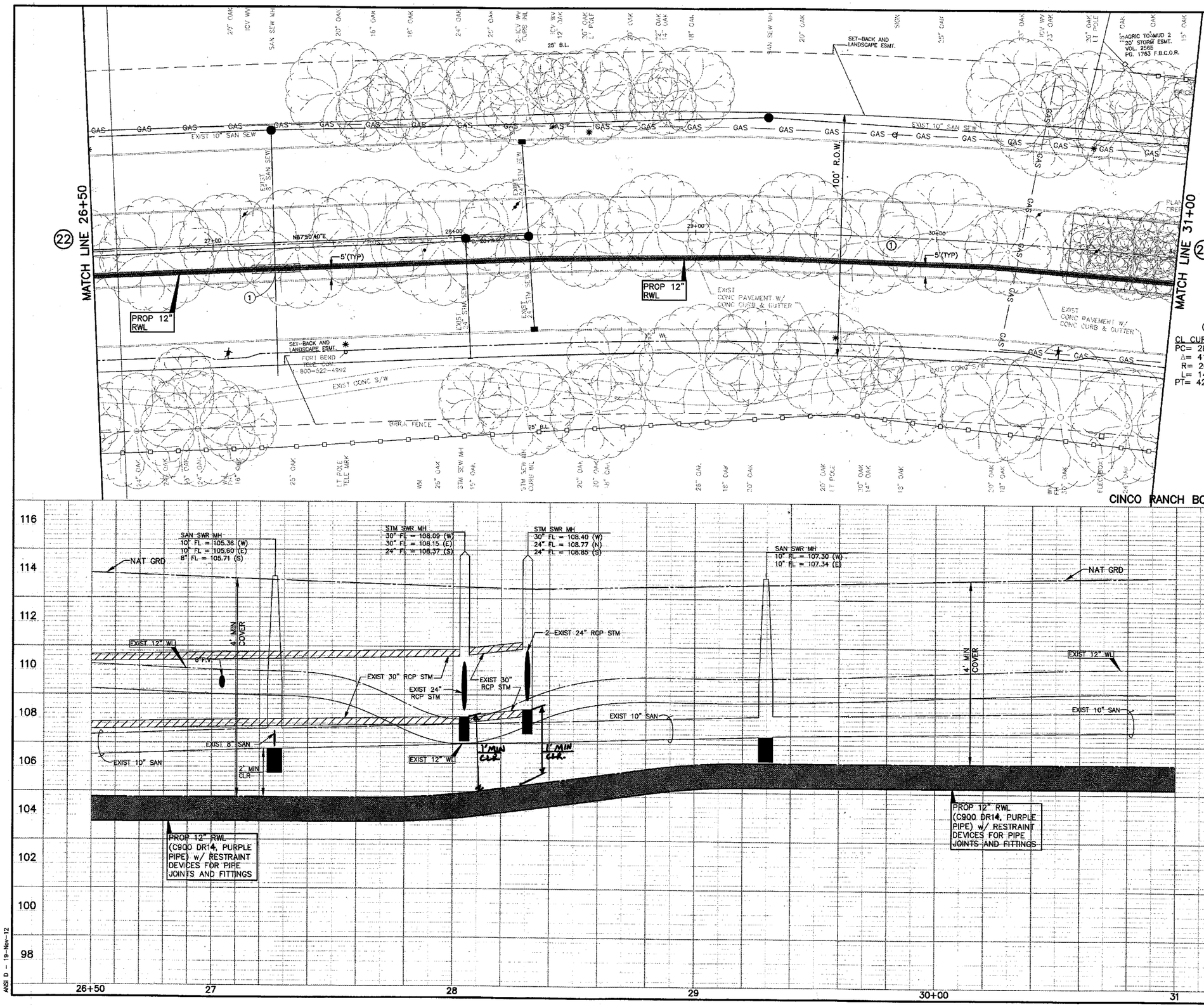
CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (22+00 TO 26+50)

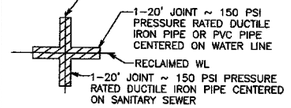
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 22 OF 154

PATH/FILENAME: L:\CIN...39\DWG\P&P-CRB.DWG
LAST UPDATE: Monday, Nov... 19, 2012 3:15:28 PM
PLOT DATE: Monday, Nov... 19, 2012 3:19:36 PM
ANSI D - 19-Nov-12



NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 23 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	REVISIONS DESCRIPTION

AECOM TECHNICAL SERVICES, INC.
2757 W. HOLCOMBE BLVD, SUITE 101, WEST
HOUSTON, TEXAS 77025-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

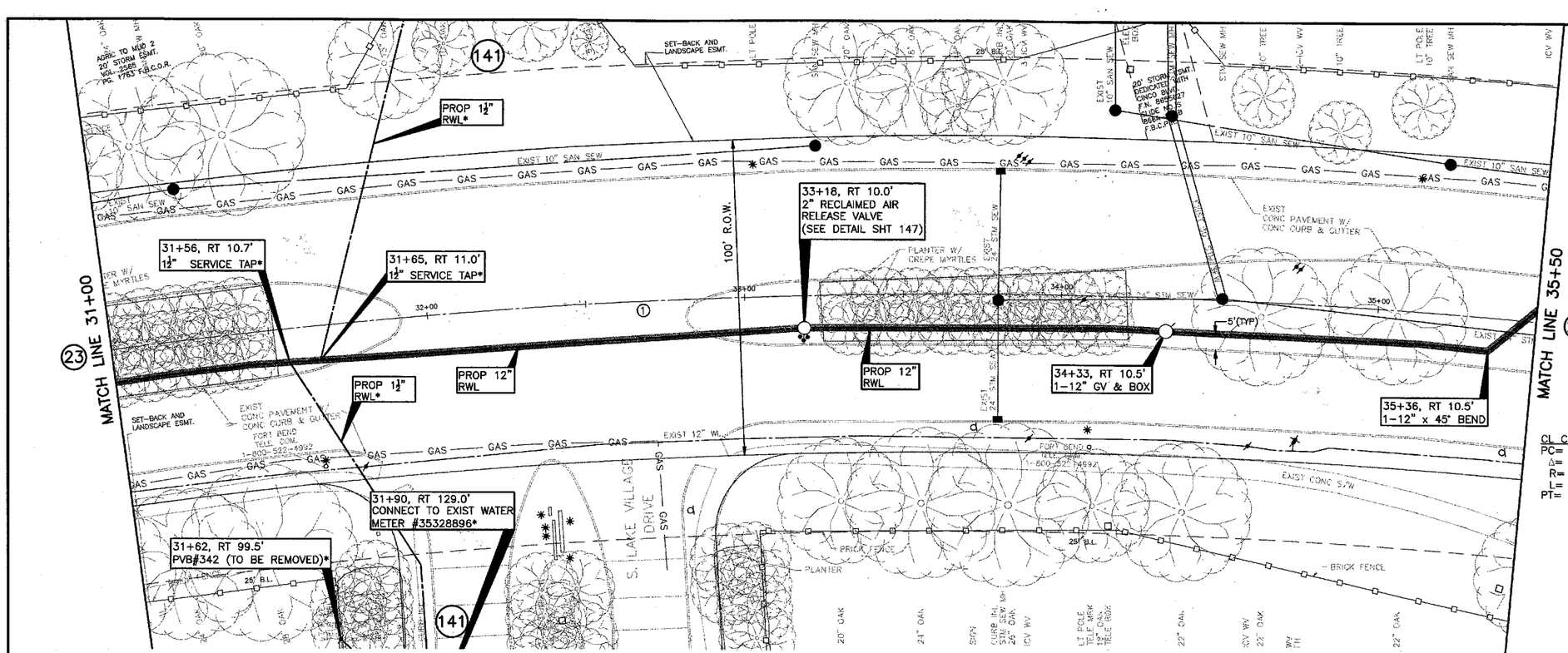
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO RANCH BOULEVARD (26+50 TO 31+00)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 23 OF 154

PATH/FILENAME: L:\DWG\P&P-CRB.DWG
LAST SAVED: Monday, November 19, 2012 8:51:56 PM
PLOT DATE: Monday, November 19, 2012 8:56:09 PM
ANSI D - 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

① CL CURVE DATA
PC= 28+19.91
Δ= 41°11'54"
R= 2000.00'
L= 1438.09'
PT= 42+58.00

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

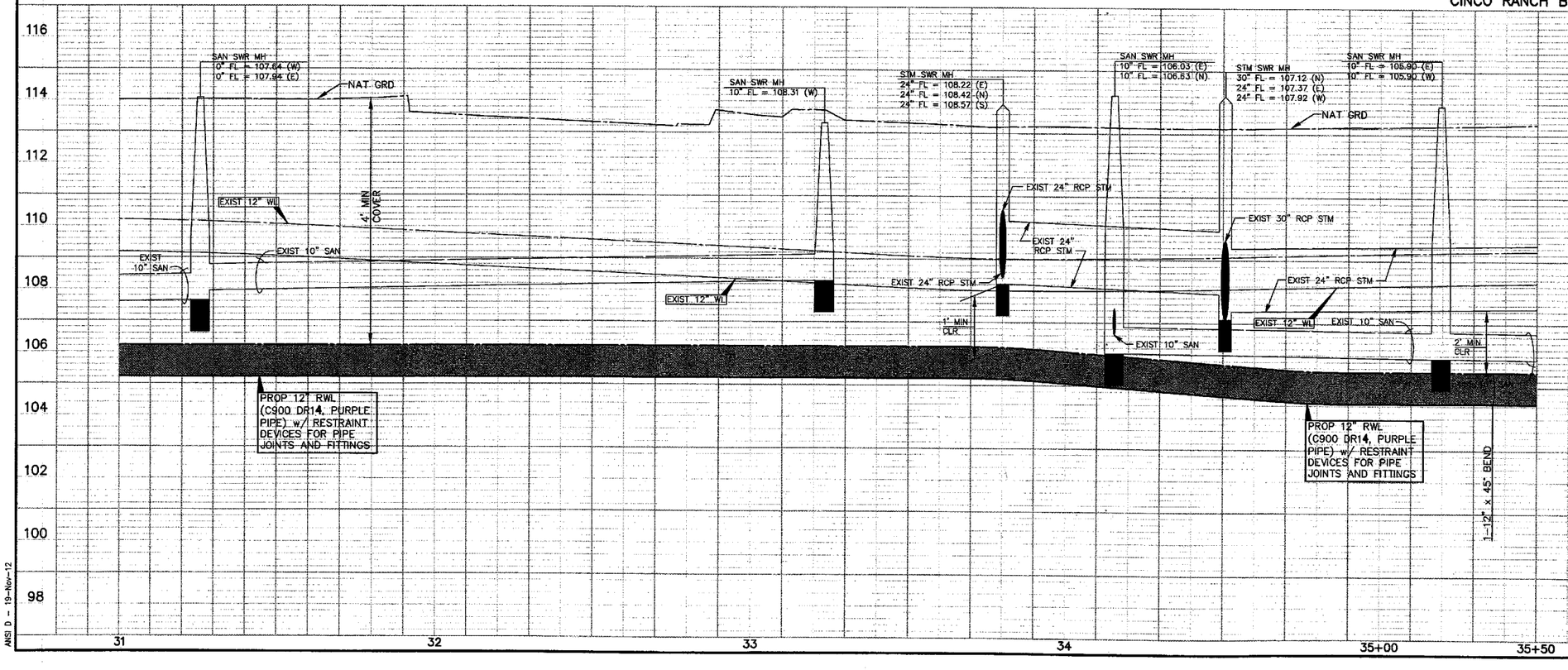
PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

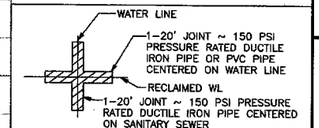
DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

CINCO RANCH BOULEVARD - FORT BEND



NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 9/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION 12-8-12
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 9.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 24 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

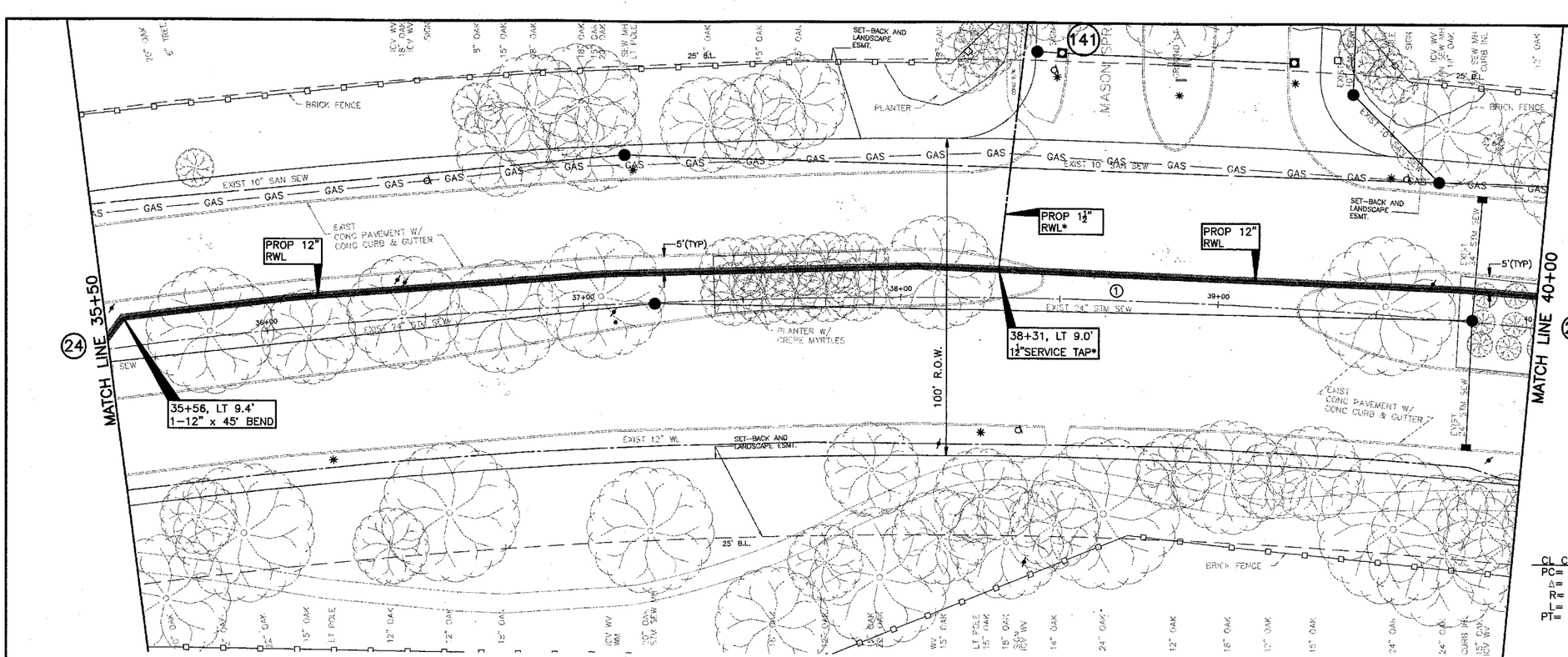
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO RANCH BOULEVARD (31+00 TO 35+50)

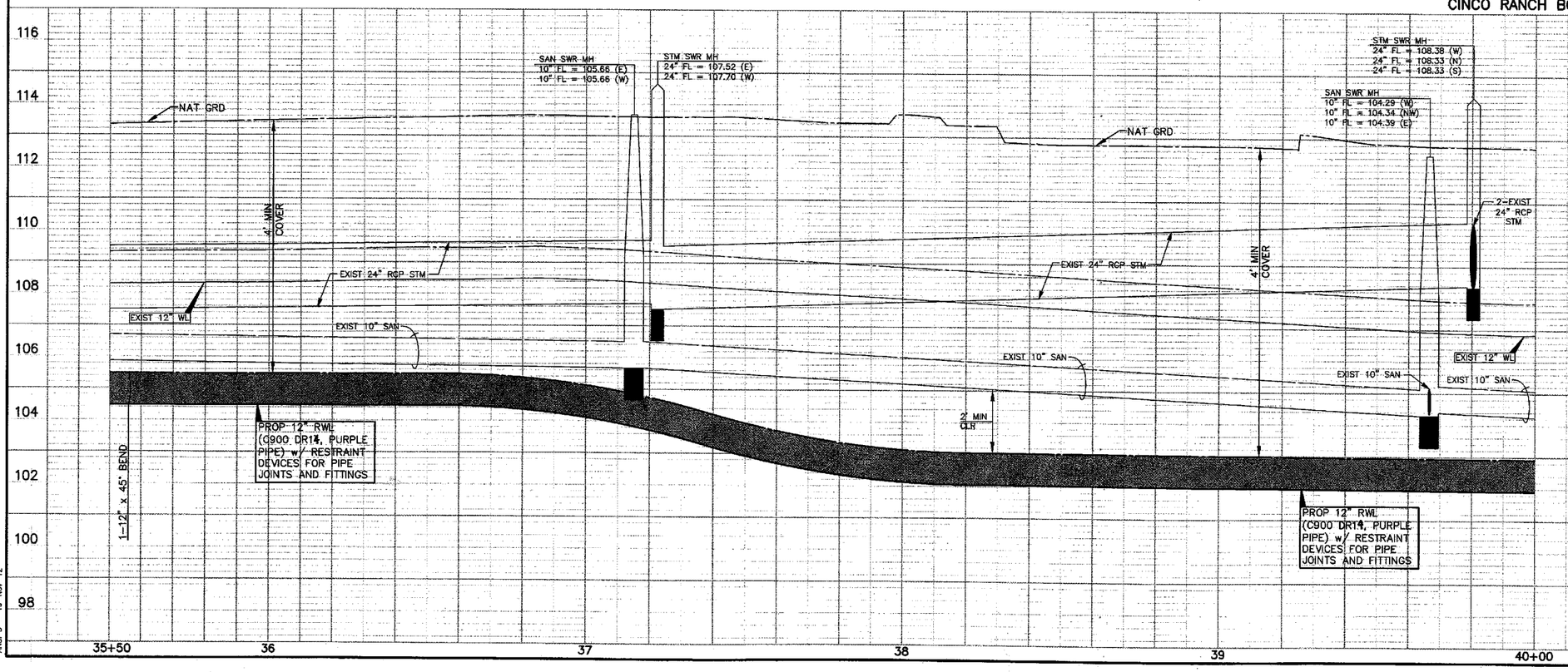
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 24 OF 154

PATH/FILENAME: L:\CIN...\59\DWG\P&P-CRB.DWG
LAST UPDATE: Monday, ...19, 2012 3:15:26 PM
PLOT DATE: Monday, Nov...3, 2012 3:20:43 PM
ANSI D - 19-Nov-12



CINCO RANCH BOULEVARD- FORT BEND



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

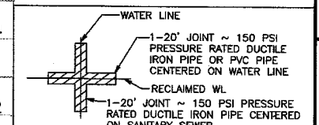
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

① CL CURVE DATA
PC= 28+19.91
Δ= 41°11'54"
R= 2000.00'
L= 1438.09'
PT= 42+58.00

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION 4.13.12
WASTEWATER	STORM WATER QUALITY 4-8-14
STORM	FACILITIES 4.15.14 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 25 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (35+50 TO 40+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 25 OF 154

PATH/FILENAME: L:\CIN...\60\DWG\P&P-CRB.DWG
LAST UPDATE: Monday, Nov 19, 2012 3:15:28 PM
PLOT DATE: Monday, Nov 19, 2012 3:21:05 PM
ANSI D - 19-Nov-12

MATCH LINE 40+00

MATCH LINE 44+50

SET-BACK AND LANDSCAPE ESMT.

BRICK FENCE

GUTTER

100' R.O.W.

5'(TYP)

PLANTER W/ CREPE MYRTLES

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST CONC S/W

EXIST 10" SAN SEW

EXIST 12" WL

SET-BACK AND LANDSCAPE ESMT.

PROP 12" RWL

41+00

42+00

43+00

44+00

PI STA 43+56.56
Δ=31°51'53"
D=2°51'53"
R=2000.00'
T=562.28'
L=1112.28'
RC 43+56.56
S50°57'26"E

① CL CURVE DATA
PC= 28+19.91
Δ= 41°11'54"
R= 2000.00'
L= 1438.09'
PT= 42+58.00

② CL CURVE DATA
PC= 43+56.56
Δ= 31°51'53"
R= 2000.00'
L= 1112.28'
PT= 54+68.84

42+81, LT 0.4'
PVB#77 (TO BE REMOVED)*

43+84, LT 10.2'
1½" SERVICE TAP*

PROP 1½" RWL

PROP 12" RWL

43+84, RT 6.0'
CONNECT TO EXIST WATER METER #70182702*

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

CINCO RANCH BOULEVARD - FORT BEND

SAN SWR MH
10" FL = 103.98 (E)
10" FL = 104.03 (W)

NAT GRD

6"F.V.

4' MIN COVER

EXIST 12" WL

EXIST 10" SAN

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

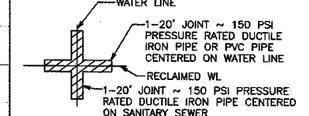
SAN SWR MH
10" FL = 103.26 (E)
10" FL = 103.26 (W)

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

116 114 112 110 108 106 104 102 100 98

40+00 41 42 43 44 44+50

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-9-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES Javad Hadi 12-11-12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 26 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (40+00 TO 44+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 26 OF 154

PATH/FILENAME: L:\CINC...\PLOTS\P&P-CRB.DWG
LAST UPDATE: Monday, Nov... 9, 2012 3:15:28 PM
PLOT DATE: Monday, Nov... 19, 2012 3:21:27 PM
ANSI D — 19-Nov-12

44+85, LT 89.2'
12" PRESSURE REDUCING, PRESSURE SUSTAINING, SOLENOID CONTROL VALVE.
SEE DETAIL SHEET 146 (IN THIS CONTRACT)

PROP WATER METER (BY OTHERS) *

44+86, LT 64.2'
1-2" BOV & BOX (TEMP)
(TO BE REMOVED AFTER SUCCESSFUL INSPECTION & TESTING)
1-12" PLUG AND CLAMP
(BY OTHERS) *

15'x25' WATER ESMT (BY OTHERS)*

MATCH LINE 44+50

MATCH LINE 49+00

PROP 12" RWL

44+88, LT 10.2'
1-12" x 12" TEE
2-12" GV & BOX

PROP 12" RWL

PROP 12" RWL

47+78, LT 11.1'
2" SERVICE TAP*

47+61, RT 56.5'
PVB#324 (TO BE REMOVED)*

PROP 2" RWL*

47+78, RT 56.4'
CONNECT TO EXIST WATER METER*

16' H.L.& P. ESMT. W/ 5.5' AERIAL VOL. 2219, PG. 1178 F.B.C.O.R.

100' R.O.W.

EXIST 24" STM SEW

EXIST 10" SAN SEW

EXIST 12" W.L.

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

PLANTER W/ CREPE MYRTLES

SET BACK AND LANDSCAPE ESMT.

EXIST CONC S/W

BRICK FENCE

5'(TYP)

25' B.L.

CINCO RANCH BOULEVARD

② CL CURVE DATA
PC= 43+56.56
Δ= 31°51'53"
R= 2000.00'
L= 1112.28'
PT= 54+68.84

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

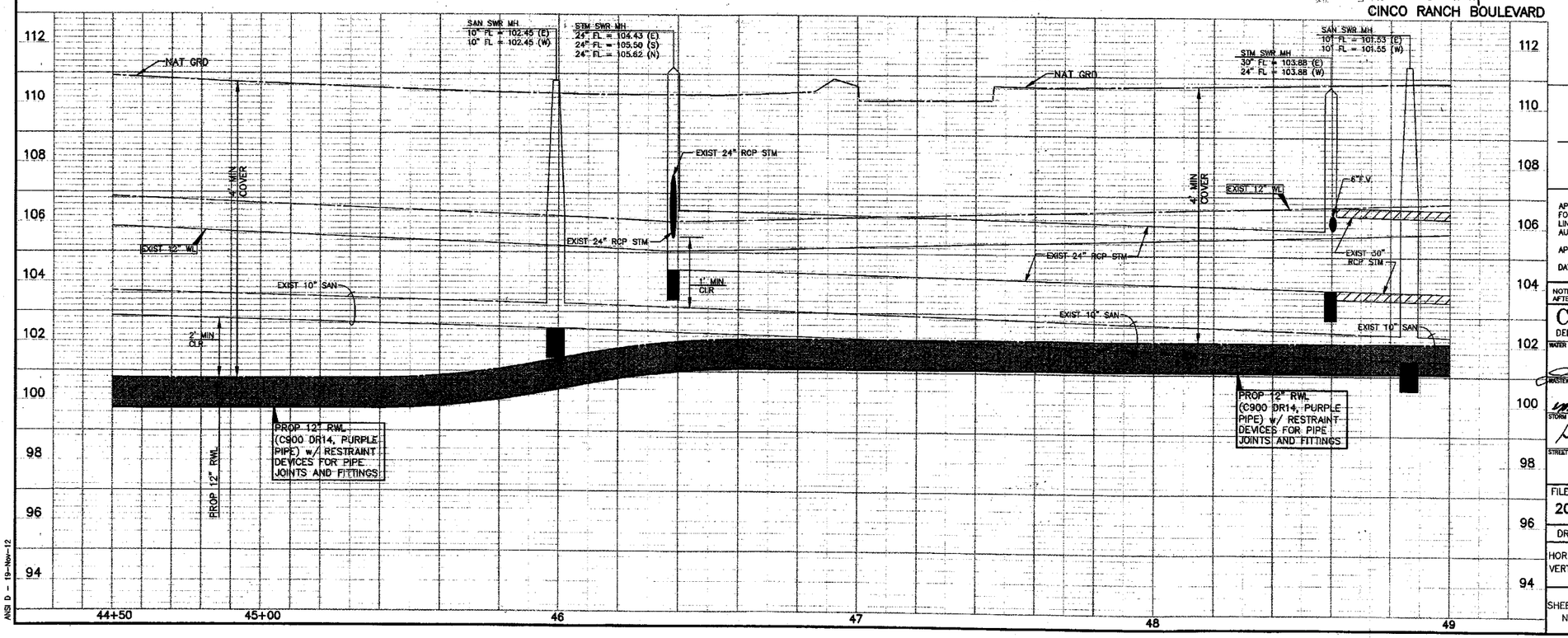
NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

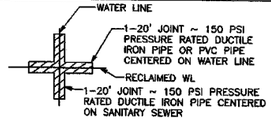
NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101, WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1



NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 27 OF 154

52149
CITY DRAWING NUMBER

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (44+50 TO 49+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 27 OF 154

PATH/FILENAME: L:\CINCO\60194669\UNIV\P&P-CRB.DWG
LAST UPDATE: Monday, November 19, 2012 3:15:28 PM
PLOT DATE: Monday, November 19, 2012 3:21:40 PM
ANSI D - 19-Nov-12

MATCH LINE 49+00

MATCH LINE 53+50

(27)

(29)

PROP 12" RWL

5'(TYP)

EXIST 10" SAN SEW

GAS

SET-BACK AND LANDSCAPE ESMT.

25' B.L.

16' H.L.&P. ESMT. W/ 5.8' AERIAL VOL. 2219, PG. 1178 F.B.C.O.R.

51+50, LT 10.5' 2" RECLAIMED AIR RELEASE VALVE (SEE DETAIL SHT 147)

100' R.O.W.

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

WROUGHT IRON FENCE

PLANTER

BRICK

PLANTER W/ CREPE MYRTLES

EXIST 12" G

EXIST 30" STM SEW

CONC S/W

CL CURVE DATA
PC= 43+56.56
Δ= 31°51'53"
R= 2000.00'
L= 1112.28'
PT= 54+68.84

CINCO RANCH BOULEVARD - FORT BEND

STM SWR MH
30" FL = 103.21 (E)
30" FL = 103.25 (W)

SAN SWR MH
10" FL = 100.35 (E)
10" FL = 100.40 (W)

NAT GRD

4' MIN COVER

EXIST 12" WL

EXIST 30" RCP STM

6"F.V.

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

112
110
108
106
104
102
100
98
96
94

49
50+00
51
52
53

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

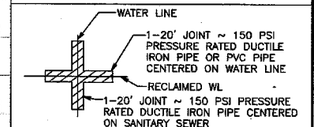
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 12.4.12
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 28 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (49+00 TO 53+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 28 OF 154

PATH/FILENAME: L:\ONE...\D\DWG\P&P-CRB.DWG
LAST UPDATE: Monday, Nov... 9, 2012 3:15:26 PM
PLOT DATE: Monday, Nov... 19, 2012 3:22:11 PM
ANSI D - 19-Nov-12

MATCH LINE 53+50

MATCH LINE 58+00

10' DUE FILE NO. 2013111003 F.B.C.O.R.

16' H.L.& P. ESMT. W/ 5.5' AERIAL VOL. 2219, PG. 1176 F.B.C.O.R.

PROP 8" RWL

PROP 12" RWL

PROP 2" RWL*

54+34, LT 9.1' 2" SERVICE TAP*

55+01.00 CINCO RANCH BOULEVARD 1+00.00 CINCO LAKES DRIVE

54+30, LT 6.5' PVB#76 (TO BE REMOVED)*

54+44, LT 8.4' 1-12" X 8" TEE 1-12" GV & BOX

54+34, LT 6.6' CONNECT TO EXIST WATER METER #70246536*

55+96, RT 10.1' 1-12" GV & BOX

PROP 12" RWL

PROP 12" RWL

100' R.O.W.

SET-BACK AND LANDSCAPE ESMT.

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

5'(TYP)

PLANTER W/ CRAPE MYRTLES

EXIST 12" WL

EXIST 24" STM SEW

EXIST 30" STM SEW

EXIST 36" STM SEW

EXIST CONC S/W

25' B.L.

BRICK FENCE

10' W.L.E. 0.296 AC. VOL. 1893, PG. 1344 F.B.C.O.R.

S82°49'18"E

CINCO RANCH BOULEVARD - FORT BEND

② CL CURVE DATA
PC= 43+56.56
Δ= 31°51'53"
R= 2000.00'
L= 1112.28'
PT= 54+68.84

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

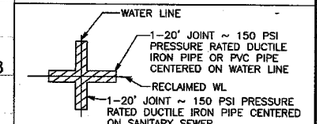
PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NESECESSARY CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-12-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM A Lee 4.15.14	FACILITIES Jan Hale 3/4/14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 29 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
3/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (53+50 TO 58+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 29 OF 154

STM SWR MH
36" FL = 102.77 (E)
30" FL = 102.99 (W)
24" FL = 104.55 (S)
24" FL = 104.75 (N)

SAN SWR MH
10" FL = 99.40 (S)
10" FL = 99.45 (E)
10" FL = 99.58 (W)
10" FL = 100.52 (N)

STM SWR MH
36" FL = 101.78 (E)
36" FL = 101.78 (W)
24" FL = 101.76 (N)

STM SWR MH
42" FL = 101.69 (E)
36" FL = 101.73 (W)
24" FL = 102.24 (N)
24" FL = 102.55 (S)

SAN SWR MH
10" FL = 98.89 (W)
10" FL = 98.71 (E)
6" FL = 98.97 (N)
6" FL = 105.04 (N)

STM SWR MH
48" FL = 100.96 (E)
42" FL = 101.29 (W)
24" FL = 103.35 (N)

NAT GRD

EXIST 24" RCP STM

EXIST 12" WL

EXIST 30" RCP STM

EXIST 36" RCP STM

EXIST 42" RCP STM

EXIST 8" SAN

6"F.V.

4' MIN COVER

EXIST 10" SAN

2" MIN CLR

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 8" RWL

110 108 106 104 102 100 98 96 94 92

53+50 54 55+00 56 57 58

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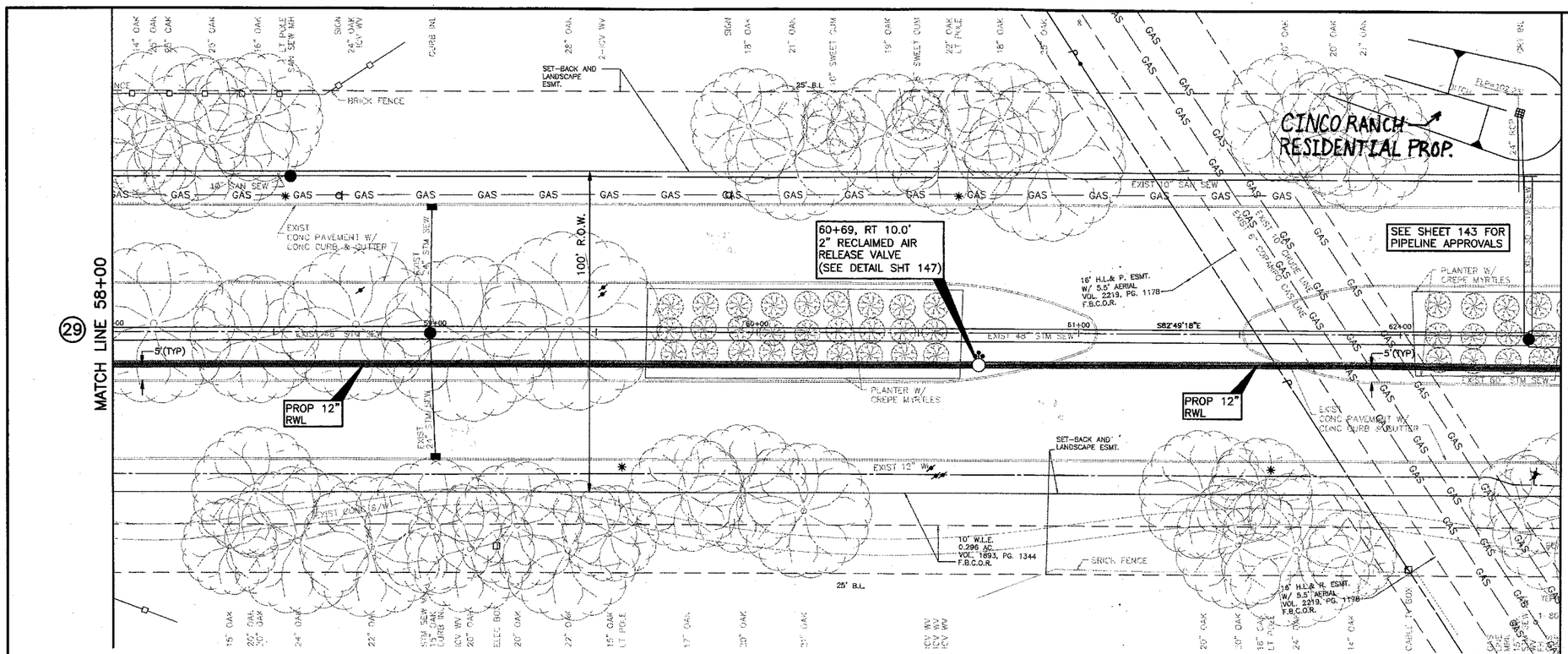
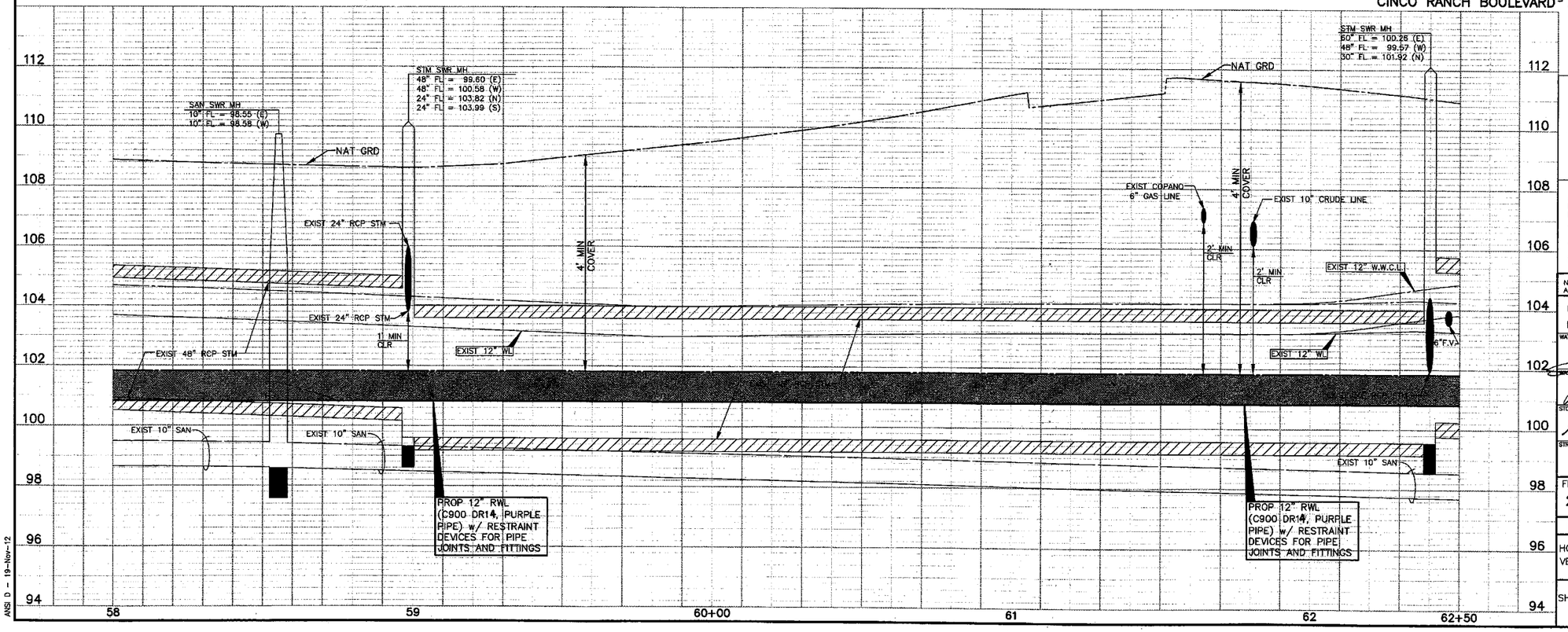
ANSI D - 19-Nov-12



CINCO RANCH BOULEVARD - FORT BEND



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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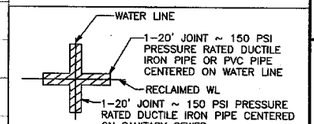
CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	12-13-13	TRAFFIC & TRANSPORTATION	
WASTEWATER	4-8-14	STORM WATER QUALITY	
STORM	4.15.14	FACILITIES	3.4.14
STREET & BRIDGE			

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 30 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1998
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/13

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (58+00 TO 62+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 30 OF 154

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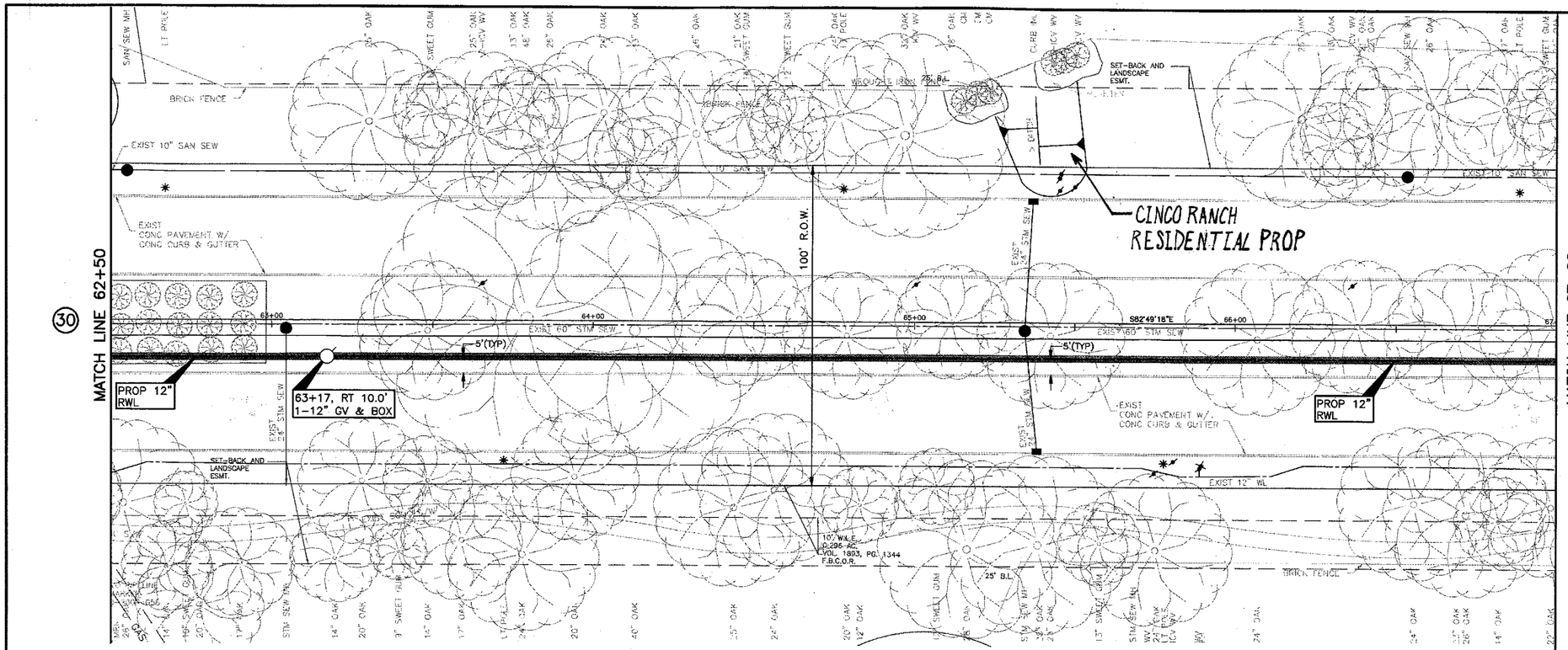
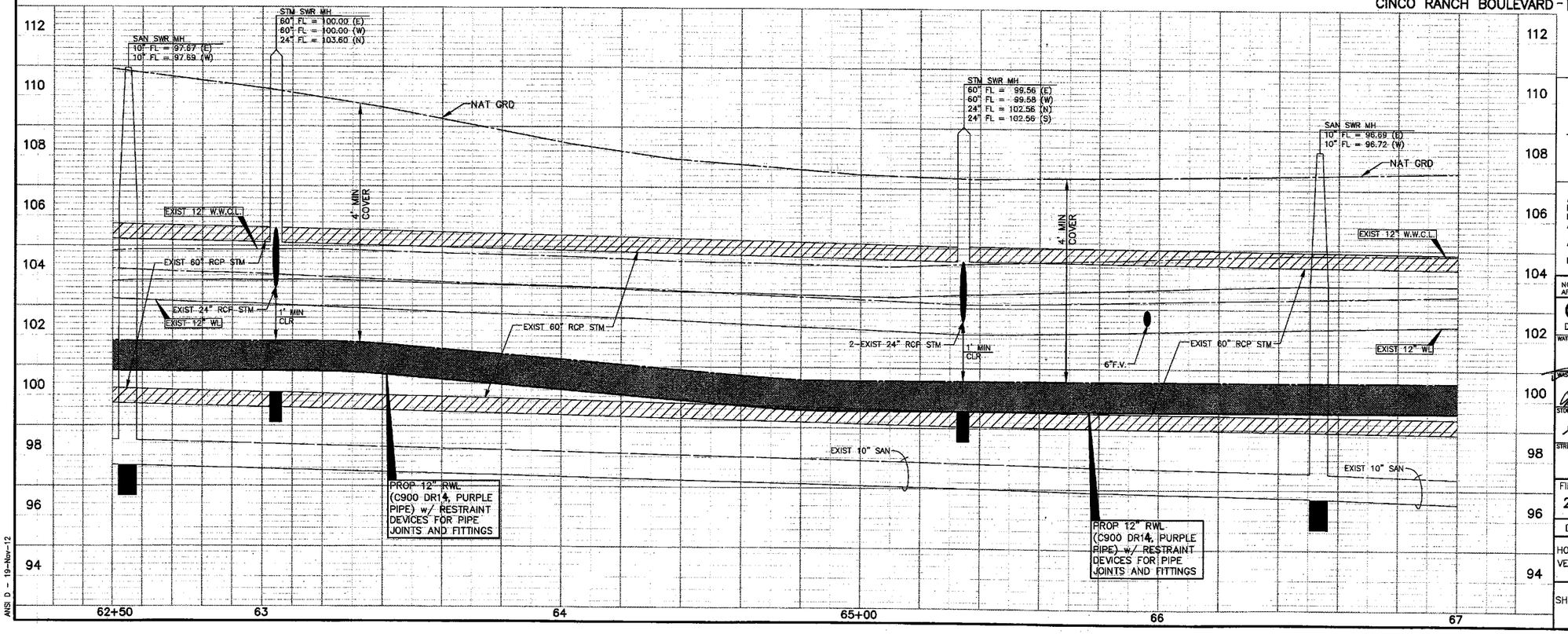
PLOT DATE: Monday, Nov...9, 2012 3:22:54 PM
ANSI D - 19-Nov-12



CINCO RANCH BOULEVARD - FORT BEND



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

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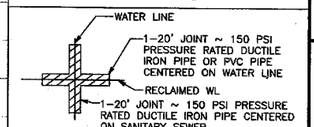

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 31 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194668, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (62+50 TO 67+00)

PROJECT NO:	60194668 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 31 OF 154

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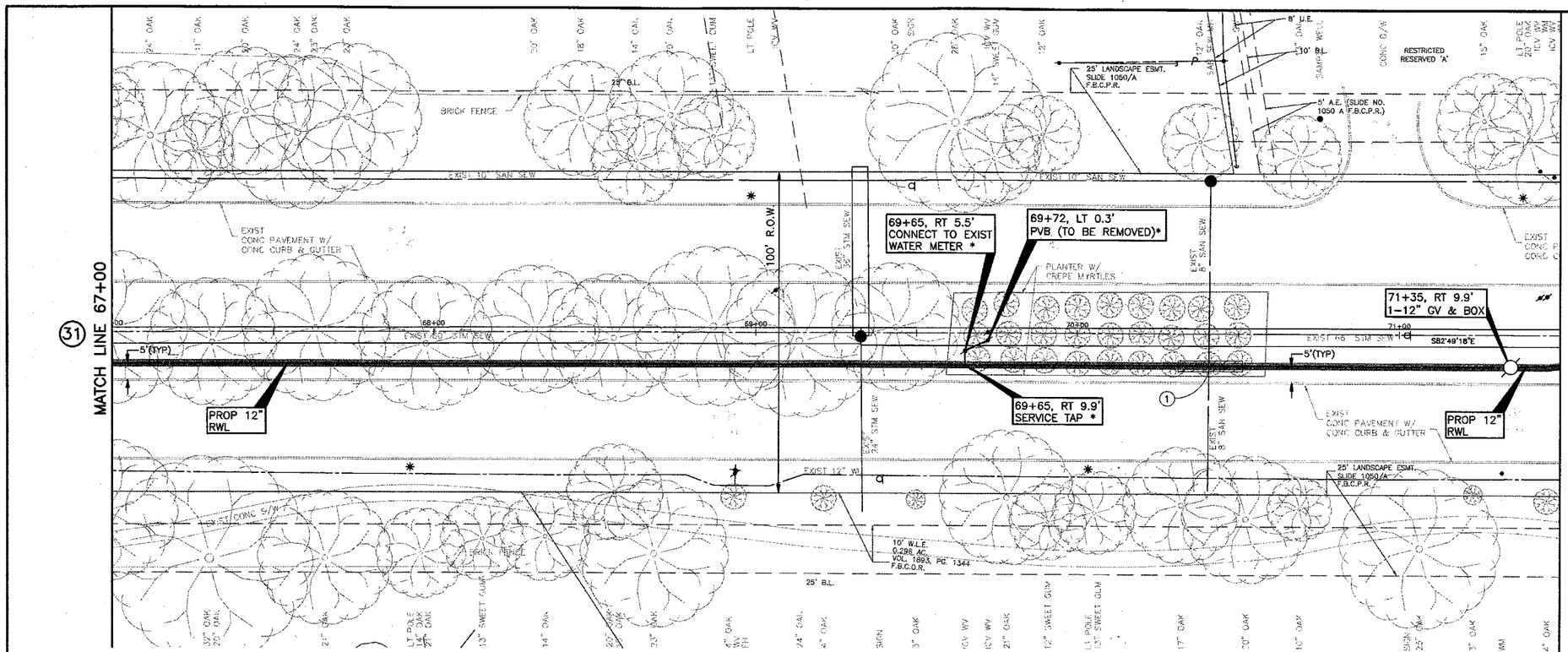
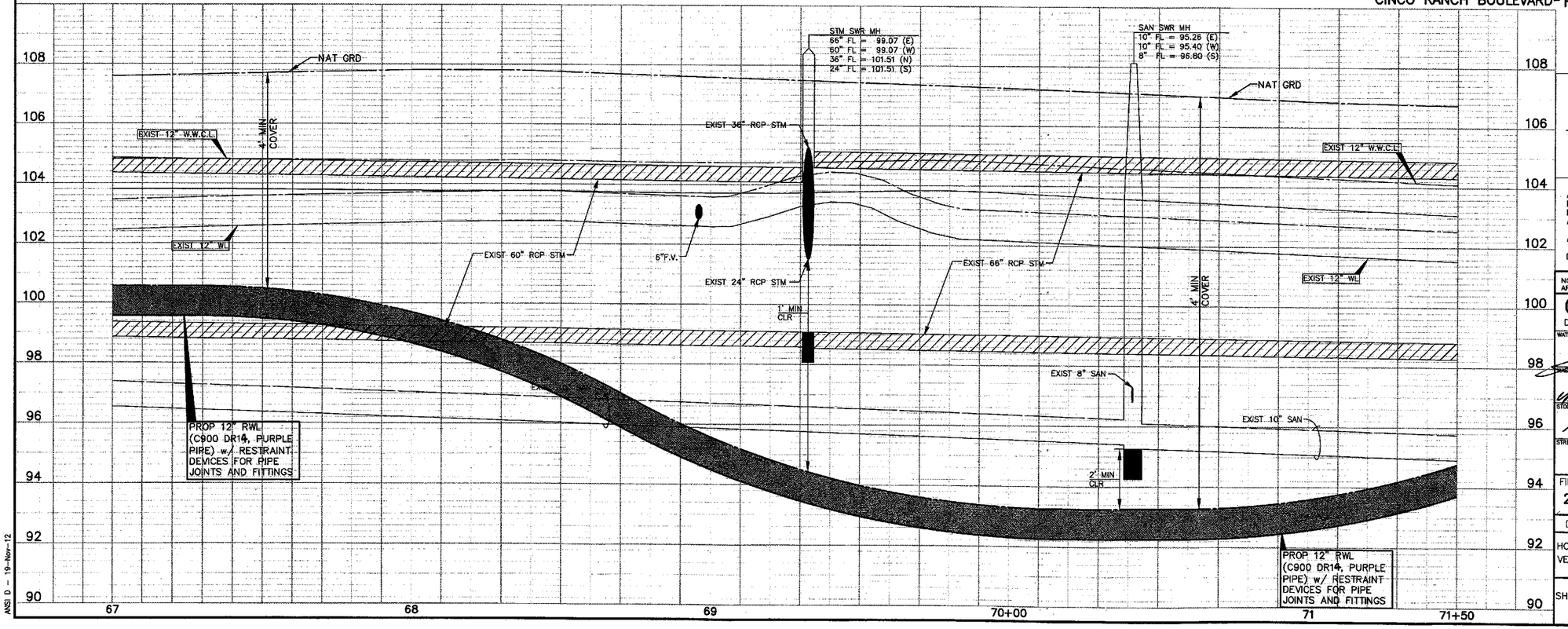
ANSI D - 19-Nov-12



CINCO RANCH BOULEVARD- FORT BEND



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LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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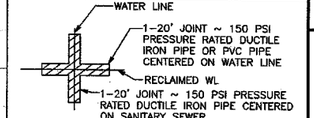

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES David Ault 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 32 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

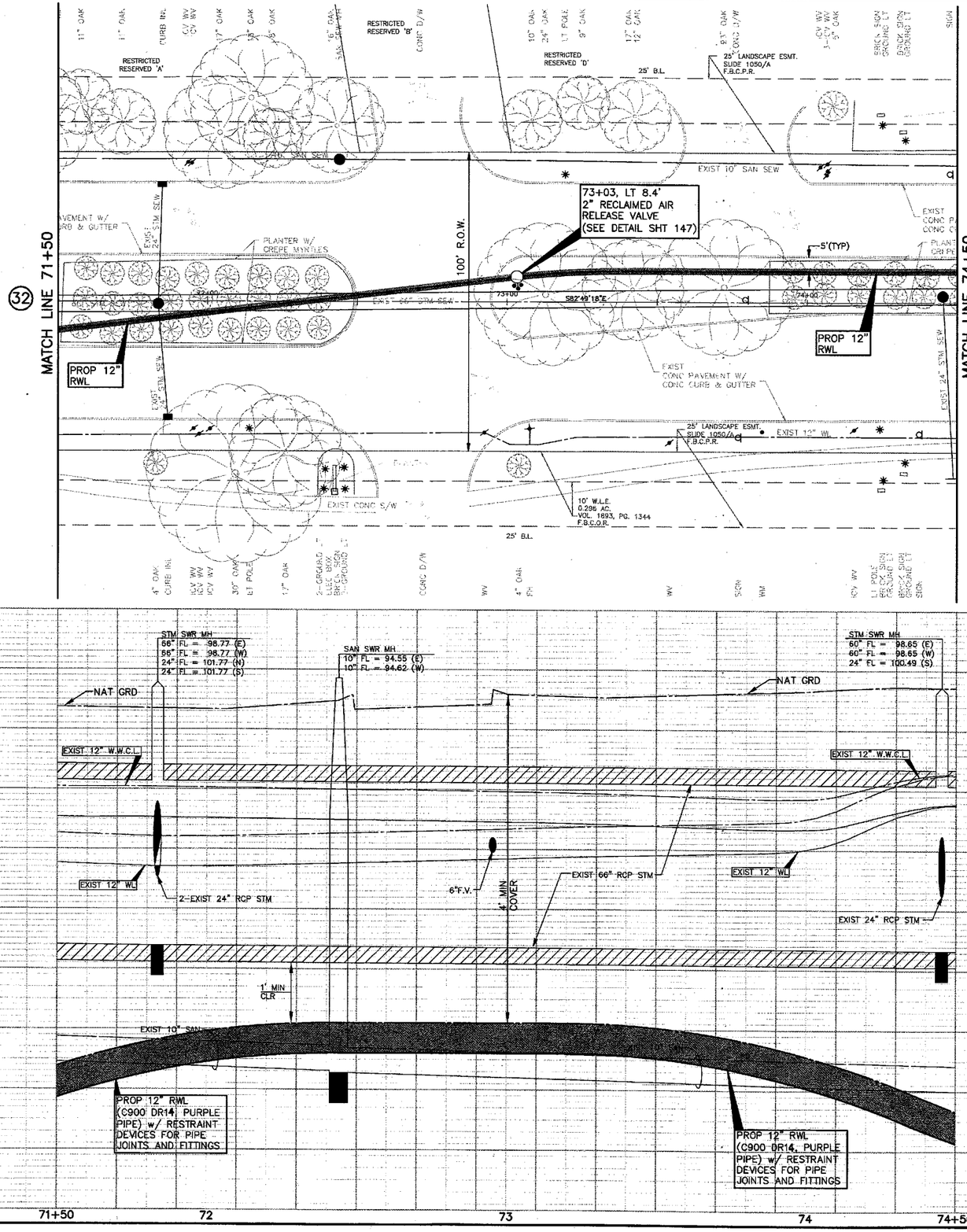
CINCO RANCH RECLAIMED WATER SYSTEM

CINCO RANCH BOULEVARD (67+00 TO 71+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 32 OF 154

PATH/FILENAME: L:\CIVIL\...\P&P-CRB.DWG
LAST UPDATE: Monday, ...9, 2012 3:15:26 PM
PLOT DATE: Monday, Nov...9, 2012 3:23:38 PM
ANSI D - 19-Nov-12



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LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

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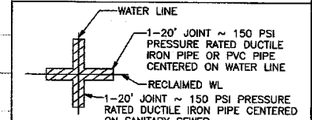

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DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

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STREET & BRIDGE	

FILE NO: 2011-1040

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52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

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PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/12/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

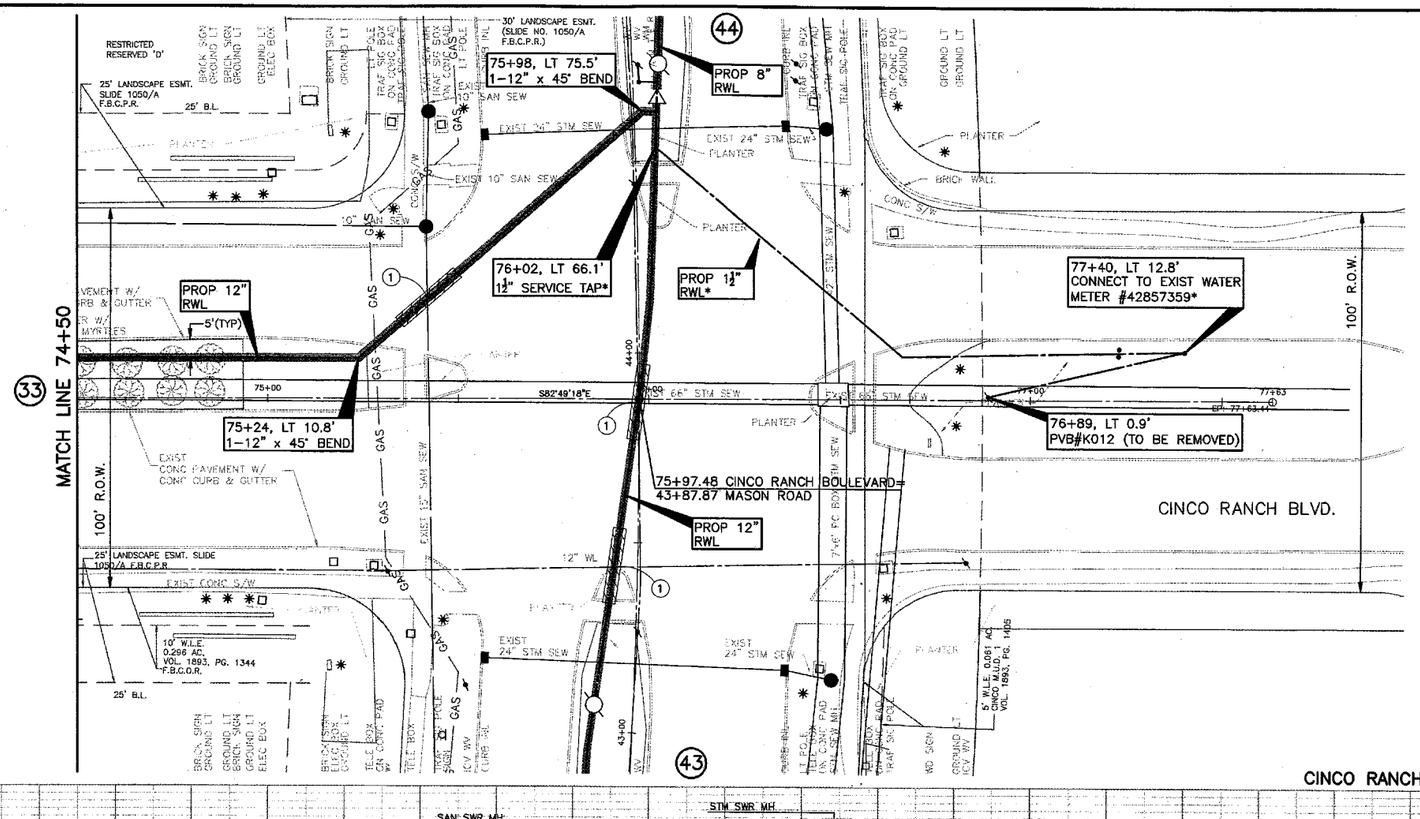
CINCO RANCH RECLAIMED WATER SYSTEM

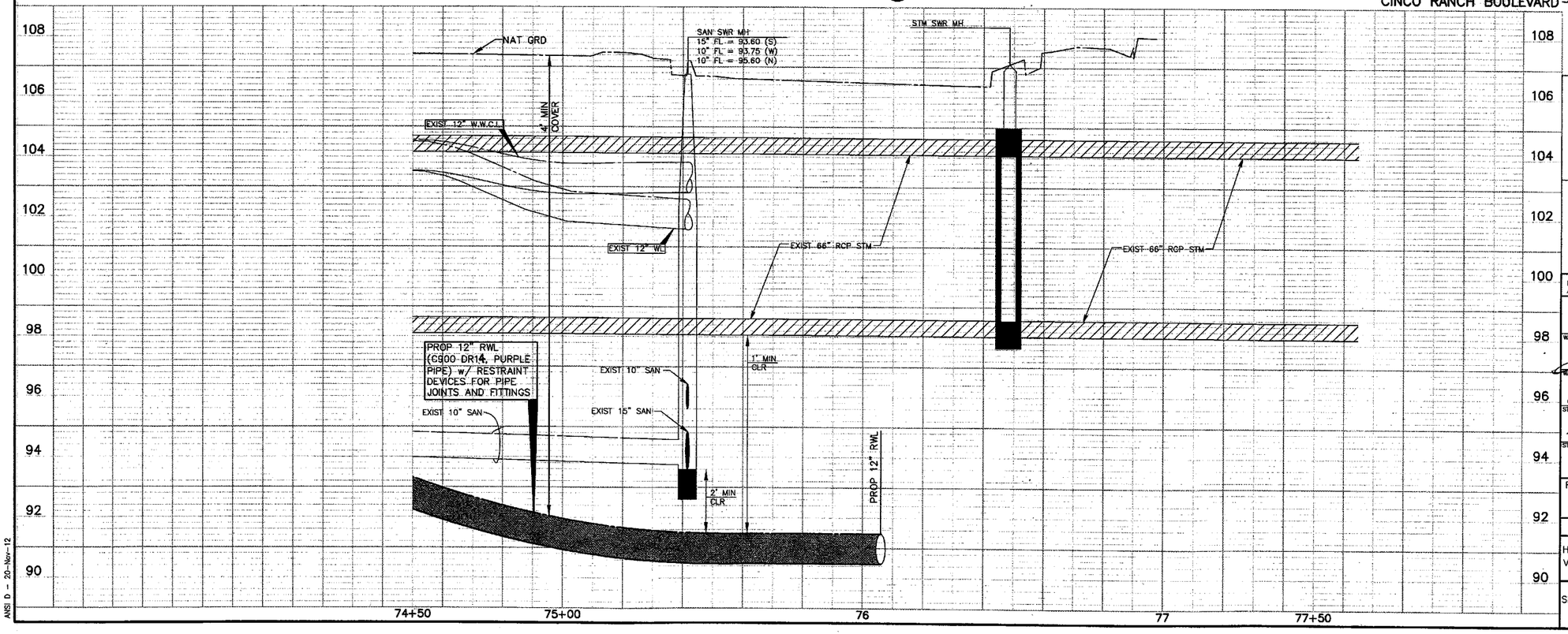
CINCO RANCH BOULEVARD (71+50 TO 74+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 33 OF 154

PATH/FILENAME: L:\CIVIL\39\DWG\P&P-CRB.DWG
LAST UPDATE: Monday, November 19, 2012 3:15:26 PM
PLOT DATE: Monday, November 19, 2012 3:24:00 PM
ANSI D - 19-Nov-12





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LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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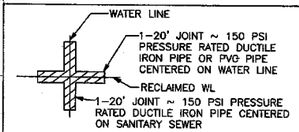

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
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FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 34 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

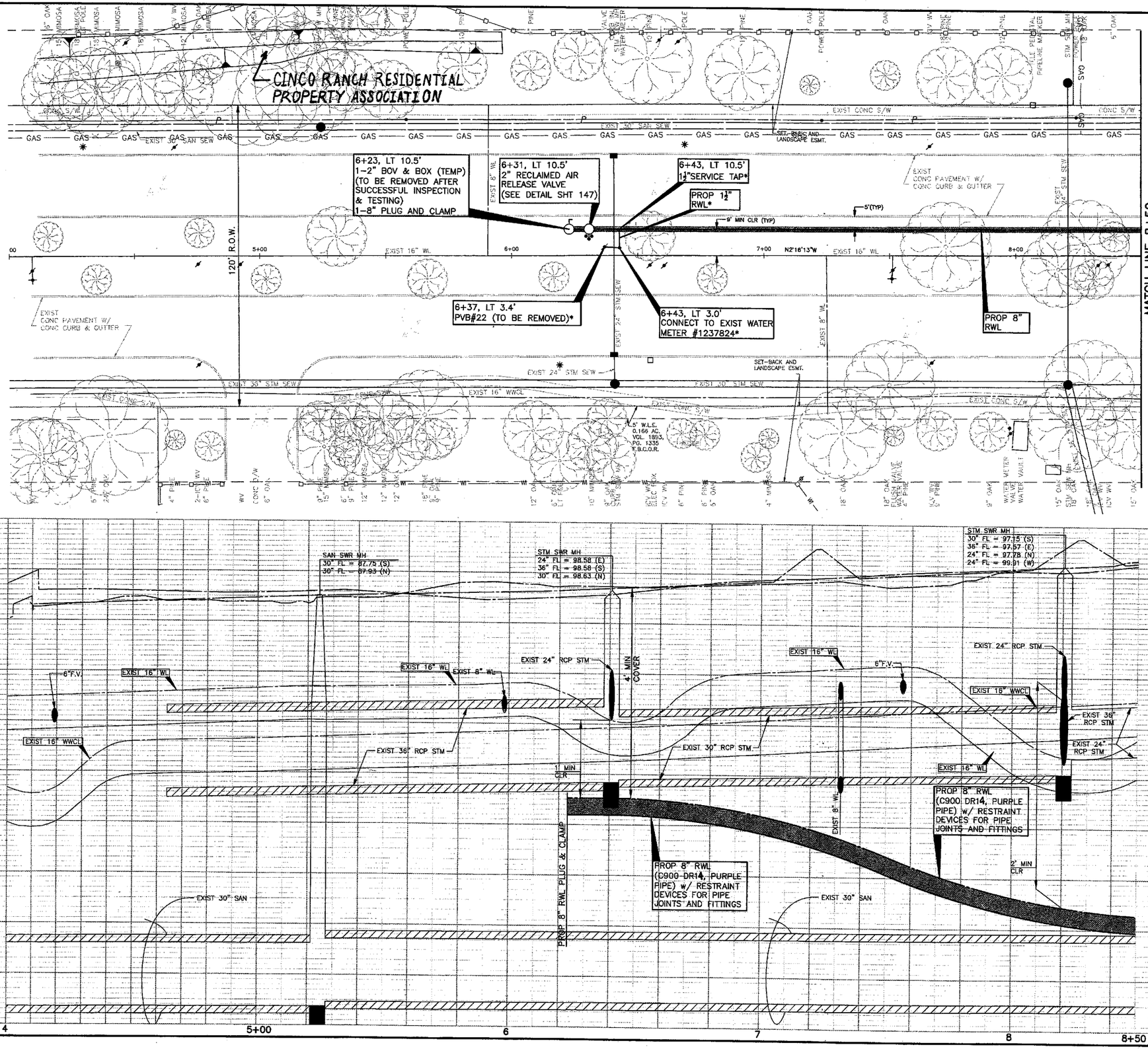
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO RANCH BOULEVARD (74+50 TO 76+97)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-CRB
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 34 OF 154

PATH/FILENAME: L:\CINCO\...4669\DWG\P&P-CRB.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:41:58 PM
PLOT DATE: Tuesday, November 20, 2012 1:02:10 PM
ANSI D - 20-Nov-12



MASON ROAD - FORT BEND

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

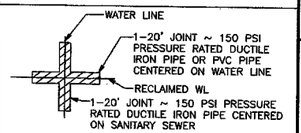
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 35 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (4+00 TO 8+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 35 OF 154

PATH/FILENAME: L:\CINC 169\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, 20, 2012 3:48:12 PM
PLOT DATE: Tuesday, N , 2012 3:51:37 PM
ANSI D - 20-Nov-12

MATCH LINE 8+50 (35)

MATCH LINE 13+00 (37)

PROP 8" RWL

120' R.O.W.

5'(TYP)

9' MIN CLR (TYP)

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST CONC S/W

SET-BACK AND LANDSCAPE ESMT.

EXIST 8" WL

EXIST 16" WL

EXIST 24" STM SEW

EXIST 16" WWCL

EXIST 30" SAN SEW

12+24, LT 10.5'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

PC: 12+04.98

N2°09'20"W

9+00 10+00 11+00 12+00 13+00

5' W.L.E. 0.161 AC. VOL. 4893, PG. 1335 F.C.O.R.

ELECTRIC BOX, LT POLE, WATER VALVE, 9" PINE, 12" PINE, 10" PINE, CONC D/W, GROUND LIGHT, CONC SIGN, GROUND LIGHT, CONC D/W, 15" PINE, 17" PINE, STM SEW MH, 15" PINE, ICV W/, 12" OAK, 15" PINE, ICV W/, 8" PINE, 12" OAK, FLUSH VALVE, WATER VALVE, 15" OAK, 9" PINE, 9" OAK, LT POLE, 15" PINE, 15" PINE, 14" OAK, 2"-WATER METER, W.S. CHKV, 14" PINE, 5" OAK, ICV W/, CURB INL, 12" PINE, ELEC BOX, 5" OAK

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

③ CL CURVE DATA
PC= 12+04.98
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 29+09.34

MASON ROAD - FORT BEND

108 106 104 102 100 98 96 94 92 90

SAN SWR MH
30" FL = 88.04 (S)
30" FL = 88.17 (N)
12" FL = 93.52 (E)
8" FL = 98.39 (W)

STM SWR MH
24" FL = 98.56 (S)
24" FL = 99.37 (N)

STM SWR MH
24" FL = 100.18 (S)
24" FL = 101.93 (E)
24" FL = 101.98 (W)
24" FL = 102.08 (N)

SAN SWR MH
30" FL = 88.19 (S)
30" FL = 88.16 (N)
6" FL = 95.80 (E)

STM SWR MH
24" FL = 100.20 (S)
24" FL = 100.20 (W

EXIST 16" WL
EXIST 16" WWCL
EXIST 8" SAN
EXIST 24" RCP STM
EXIST 8" WL
EXIST 6" SAN
EXIST 12" SAN
EXIST 30" SAN

6"F.V.

4' MIN COVER

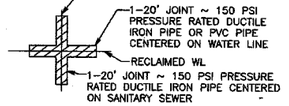
1' MIN CLR

2' MIN CLR

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

8+50 9 10+00 11 12 13

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-23-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-24-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 36 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (8+50 TO 13+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 36 OF 154

PATH/FILENAME: L:\CMC\60194669\CAD\P&P-MRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 3:48:12 PM
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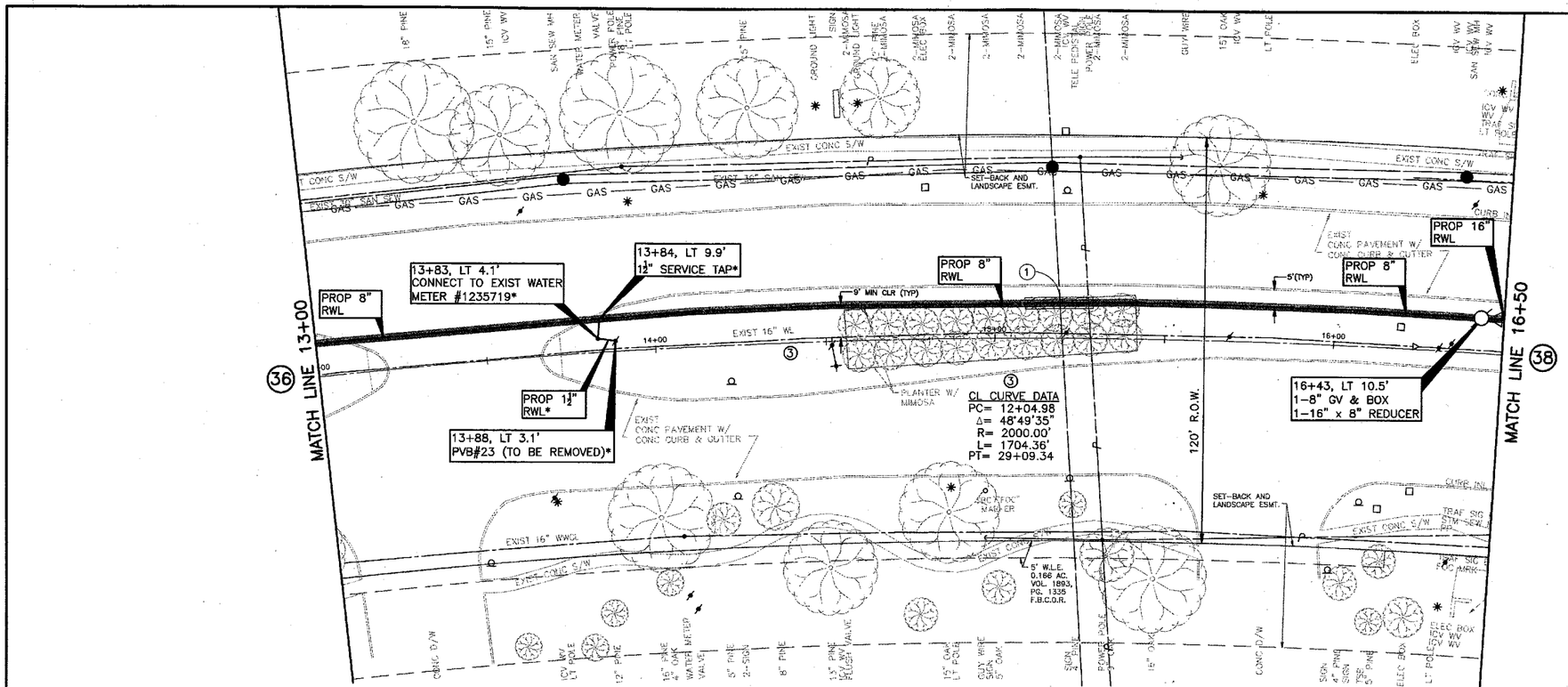
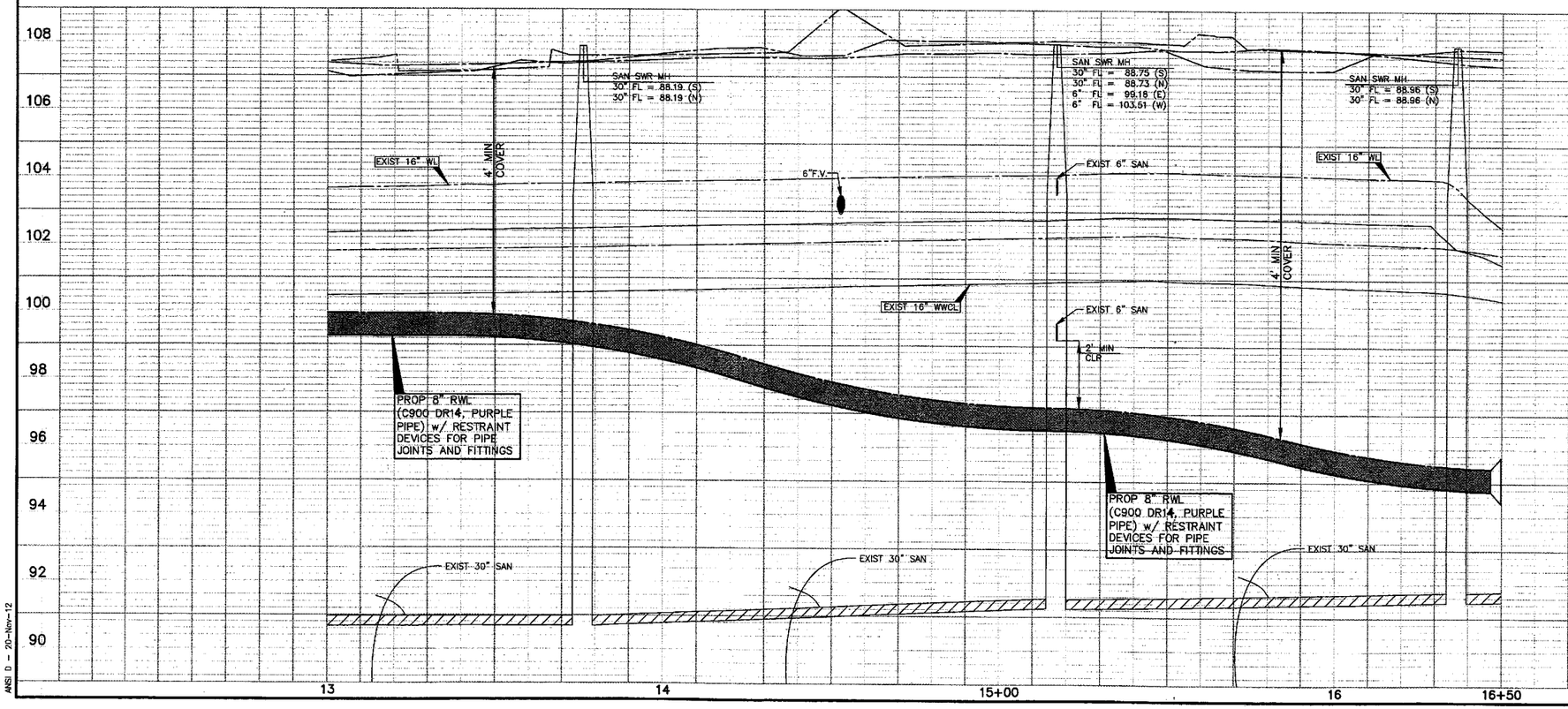
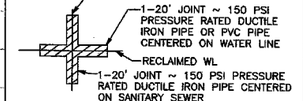
ANSI D - 20-Nov-12





NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-8-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 37 OF 154

52149 CITY DRAWING NUMBER

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PIT TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

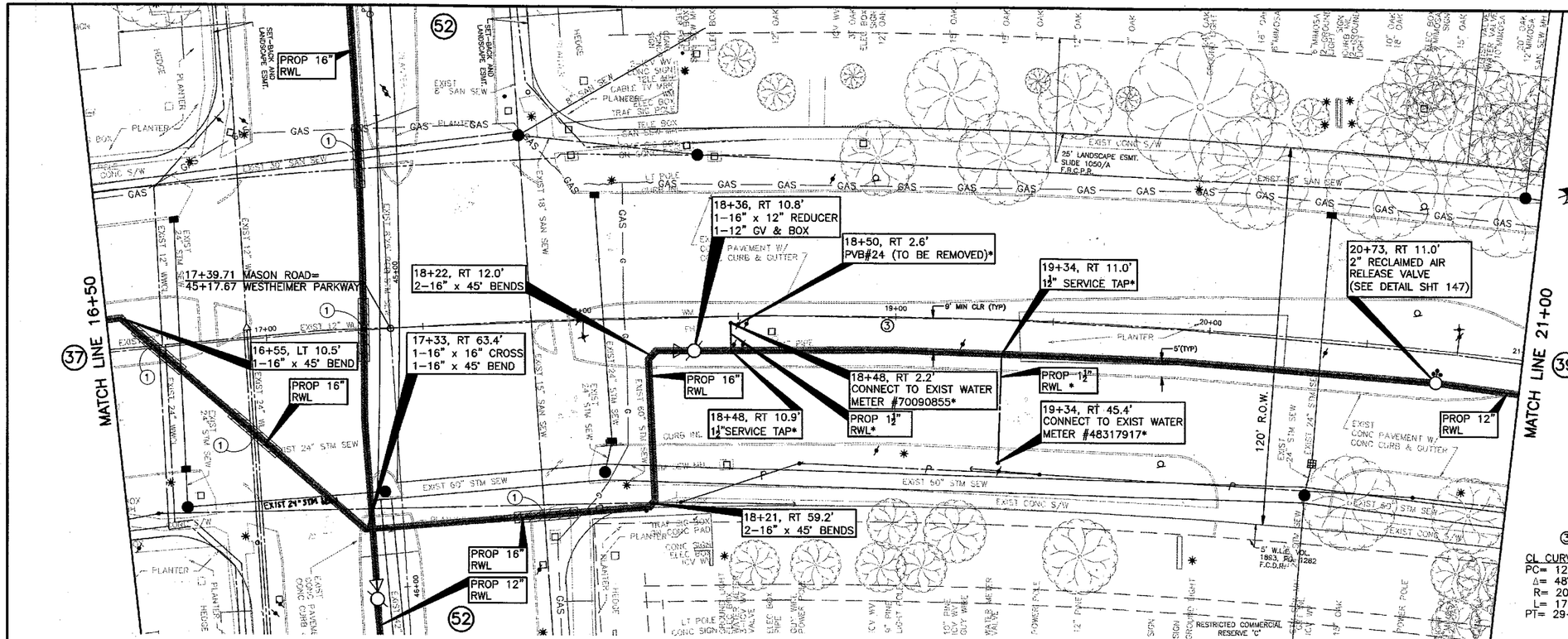
CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (13+00 TO 16+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 37 OF 154

PATH/FILENAME: L:\CINC...\P\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 3:48:12 PM
PLOT DATE: Tuesday, November 20, 2012 3:52:43 PM
ANSI D - 20-Nov-12



③

CL CURVE DATA
PC= 12+04.98
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 29+09.34

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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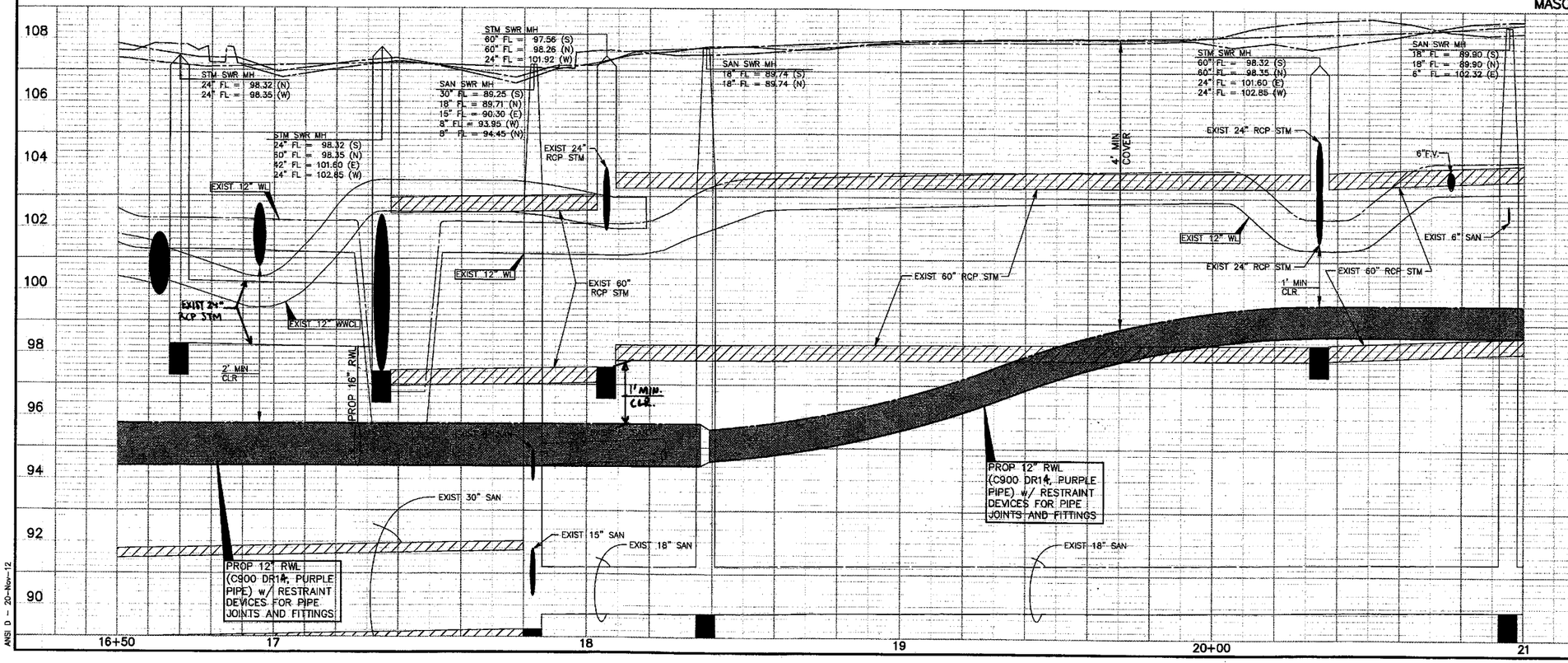
MASON ROAD - FORT BEND



NOTE: (1)
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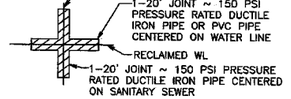

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4-5-14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 38 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 100 WEST
HOUSTON, TEXAS 77057-1699
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/13

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

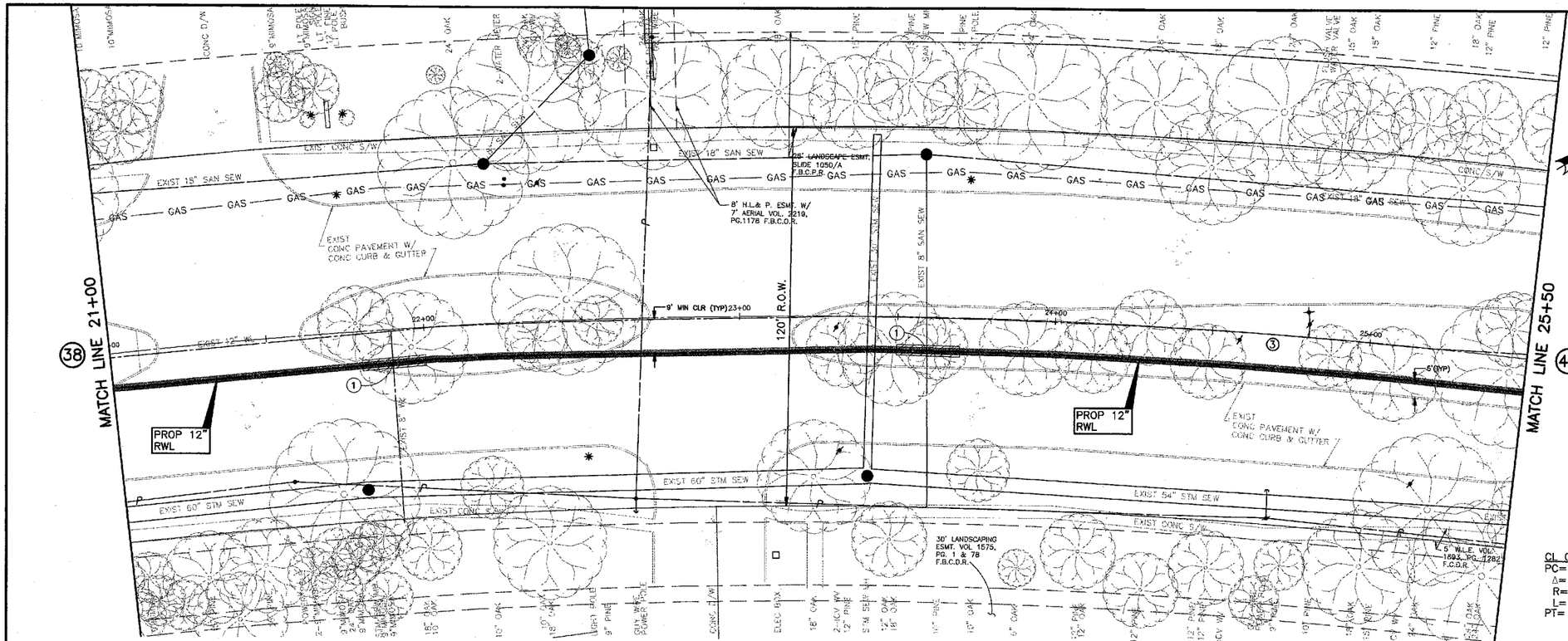
CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (16+50 TO 21+00)

PROJECT NO:	60194689 (WSO)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 38 OF 154

PATH/FILENAME: L:\CINC\
LAST UPDATE: Tuesday, Nov. 20, 2012 3:46:12 PM
PLOT DATE: Tuesday, Nov. 20, 2012 3:53:17 PM
ANSI D - 20-Nov-12
"S:\DWG\P&P-MRD.DWG"



③

CL CURVE DATA
PC= 12+04.98
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 29+09.34

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

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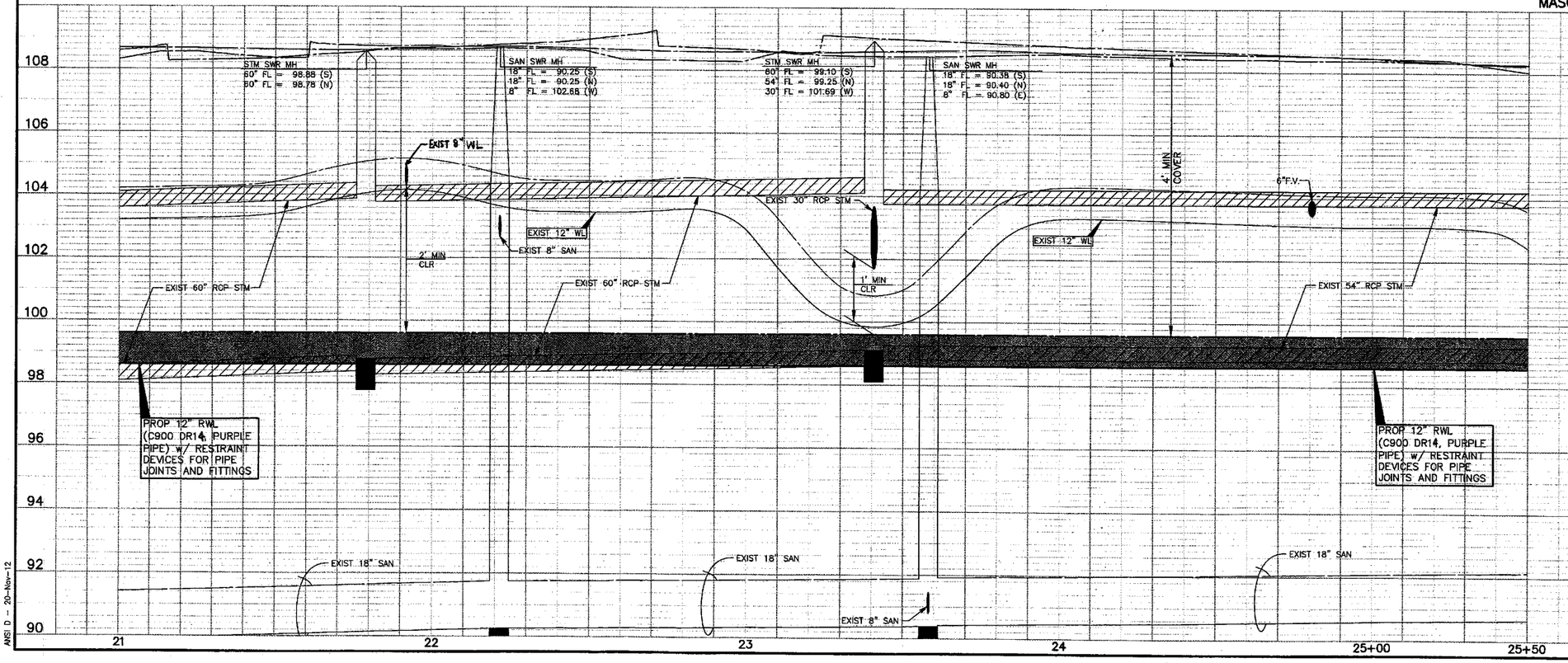
MASON ROAD - FORT BEND



NOTE: ①

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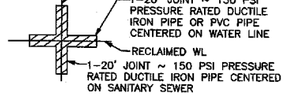


APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM A. Lucy 4.15.14	FACILITIES Jawad Amd 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 39 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

DAN EDWARDS 85443 LICENSED PROFESSIONAL ENGINEER 11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

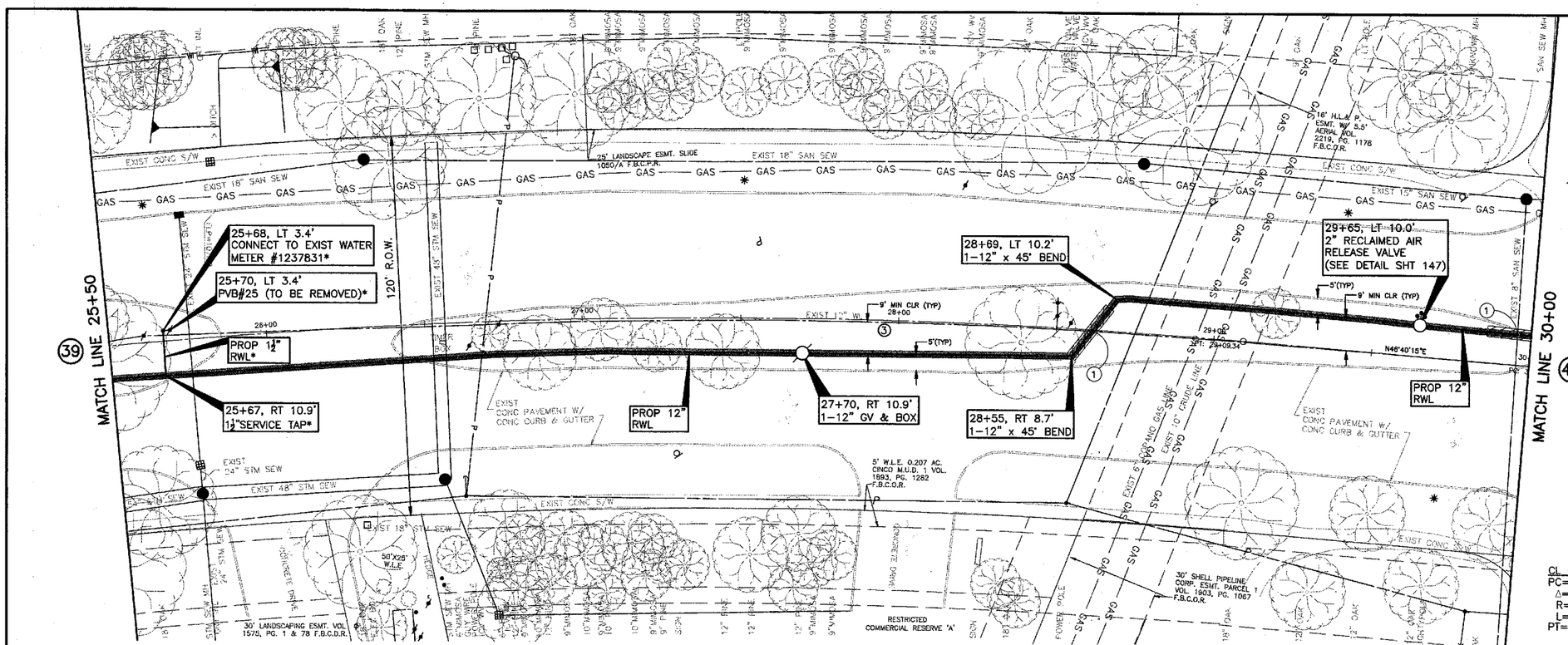
CINCO RANCH RECLAIMED WATER SYSTEM

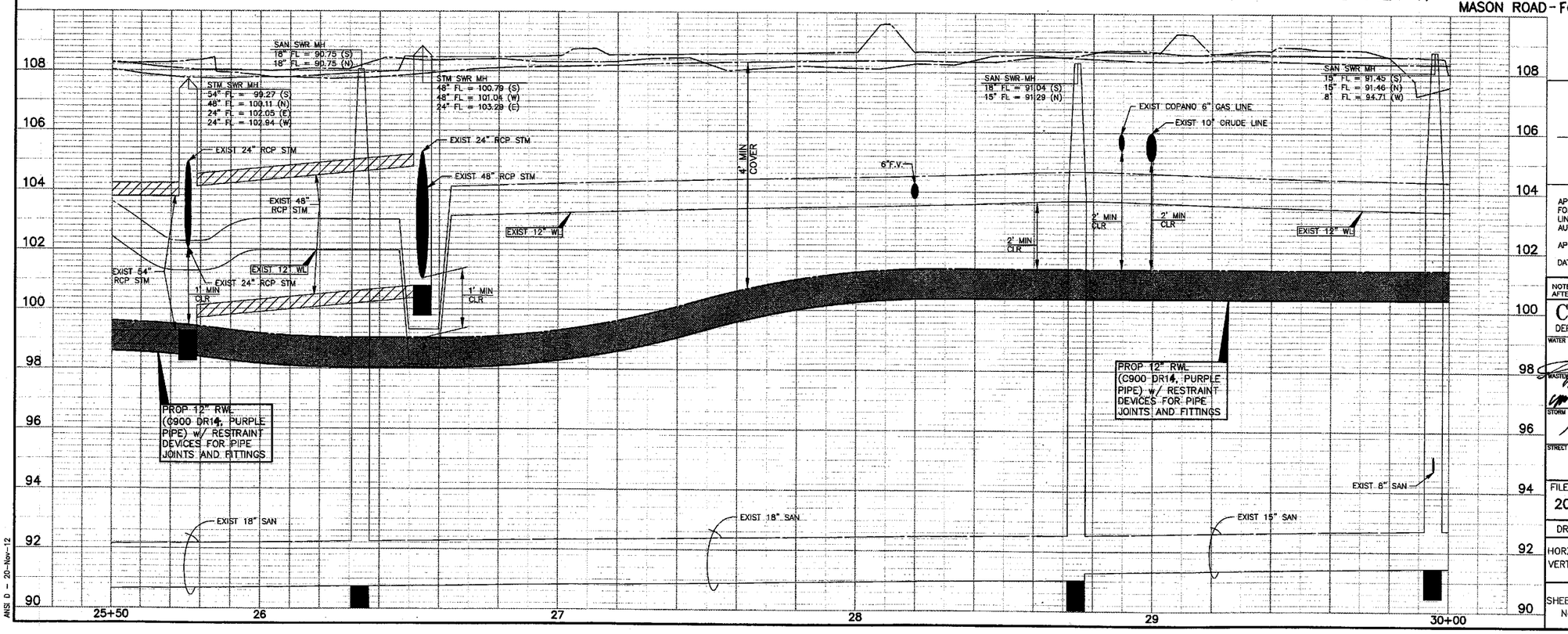
MASON ROAD (21+00 TO 25+50)

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 39 OF 154

PATH/FILENAME: L:\CINCO\69\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, 20, 2012 3:46:12 PM
PLOT DATE: Tuesday, No 20, 2012 3:53:30 PM
MSD: D - 20-Nov-12





SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

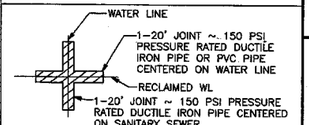
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.
CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

③
℄ CURVE DATA
PC= 12+04.98
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 29+09.34

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12/13/12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011–1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 40 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

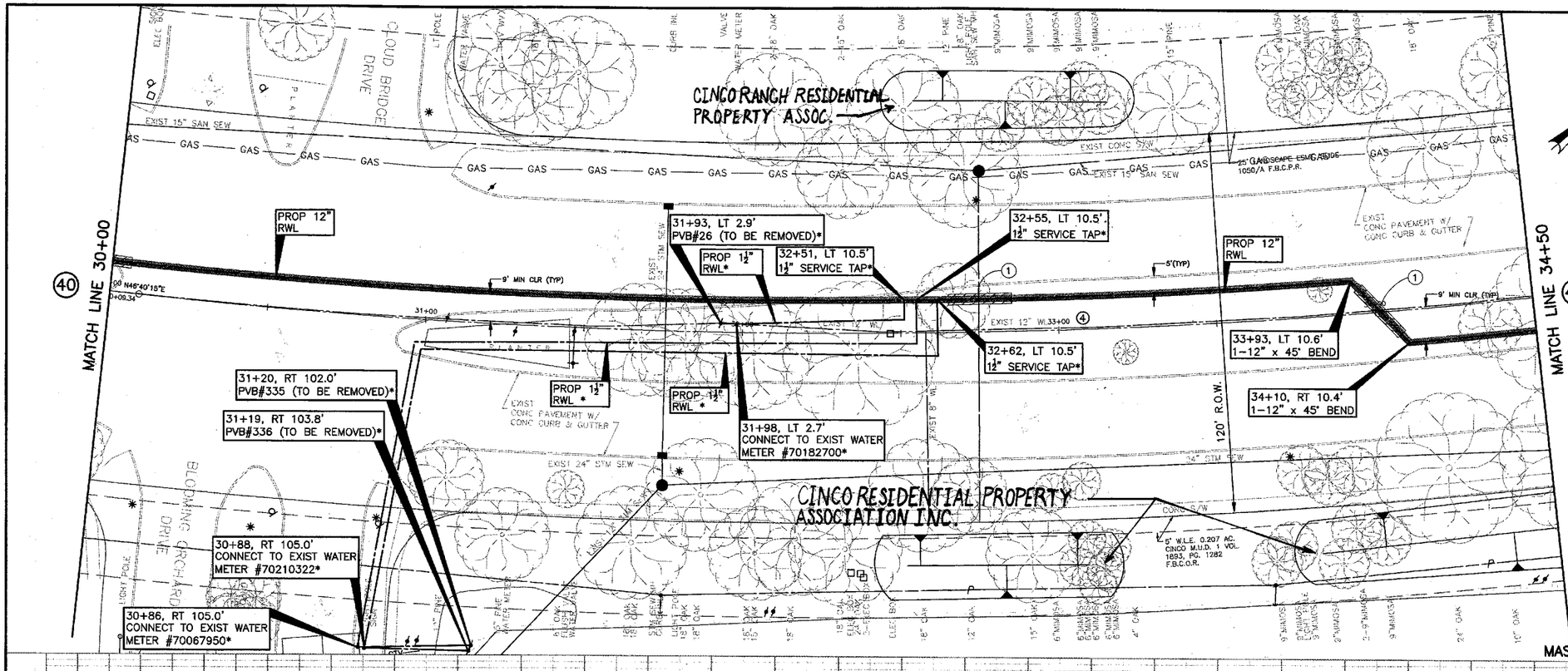
CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (25+50 TO 30+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 40 OF 154

PWDV/FILENAME: L:\CINCO\P&P–MRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 3:54:12 PM
PLOT DATE: Tuesday, Nov 20, 2012 3:54:24 PM
ANSI D – 20–Nov–12



④ CL CURVE DATA
PC= 30+09.34
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 47+13.71

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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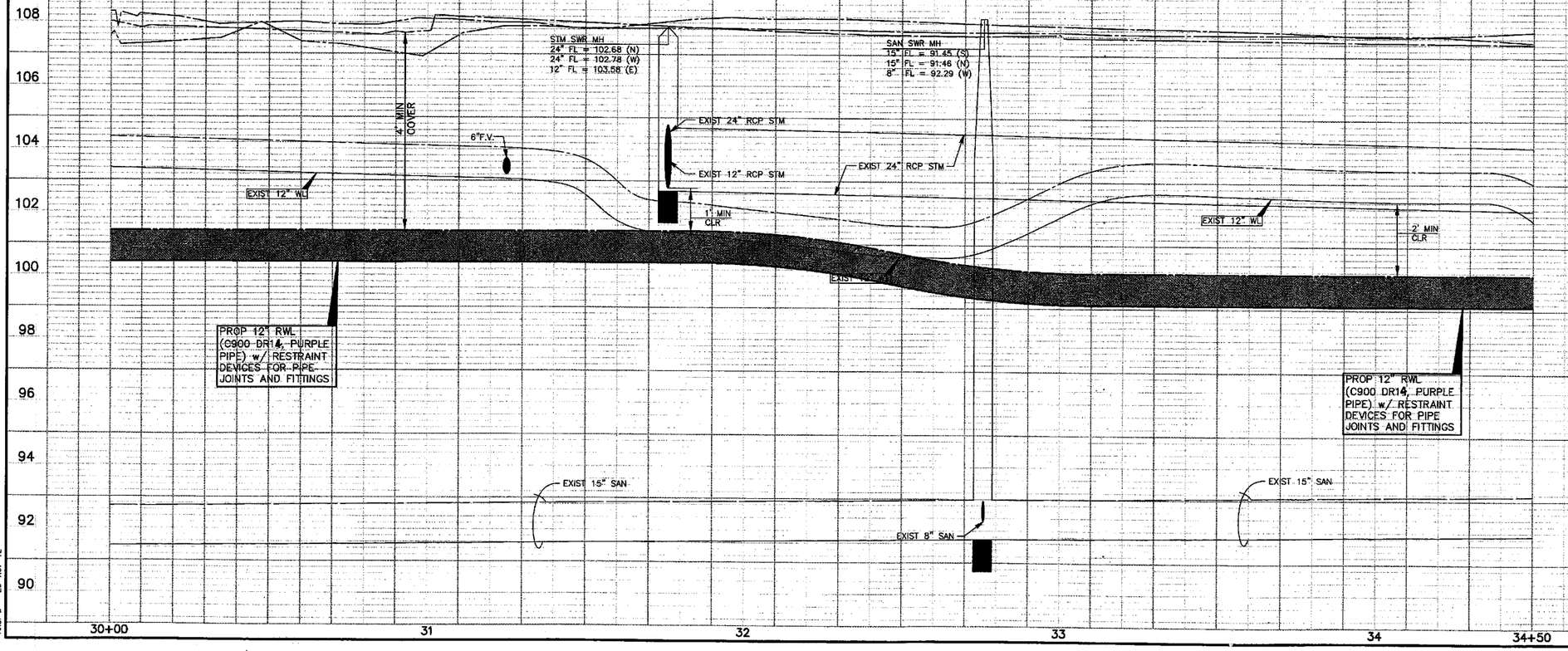
MASON ROAD - FORT BEND



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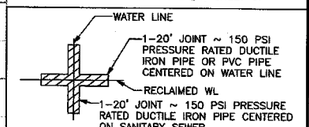
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.7.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 41 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

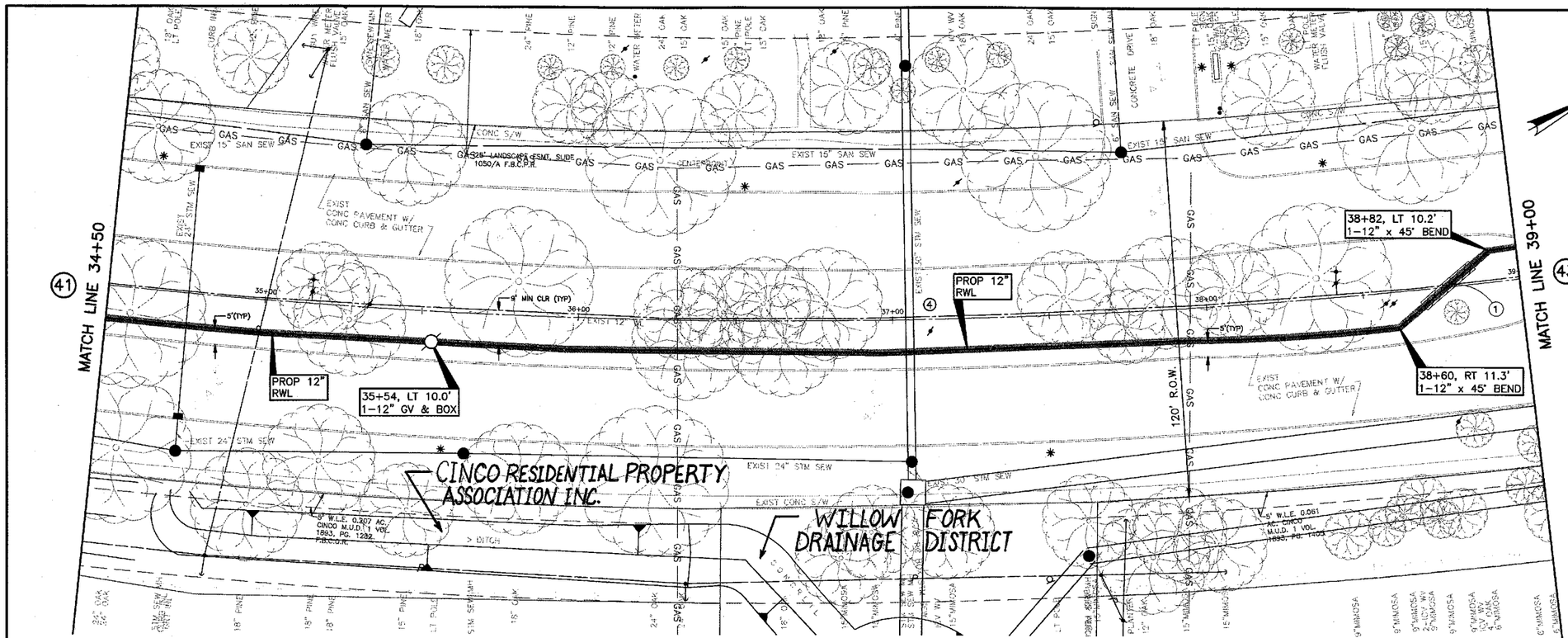
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
MASON ROAD (30+00 TO 34+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 41 OF 154

PATH/FILENAME: L:\CINCO\...\P&P_MRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 3:45:12 PM
PLOT DATE: Tuesday, November 20, 2012 3:54:57 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

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LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

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NOTE:

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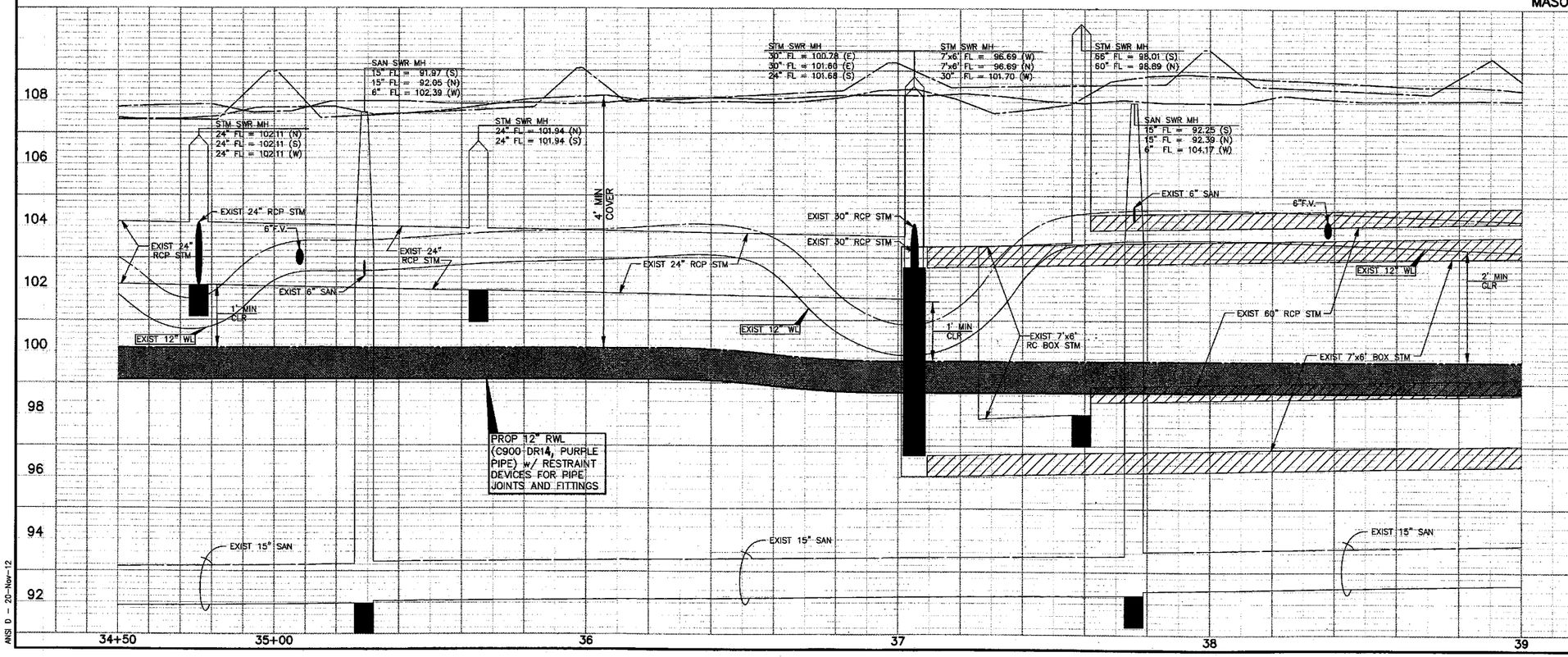
④ CL CURVE DATA
PC= 30+09.34
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 47+13.71



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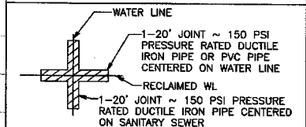

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 42 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
3/16/14

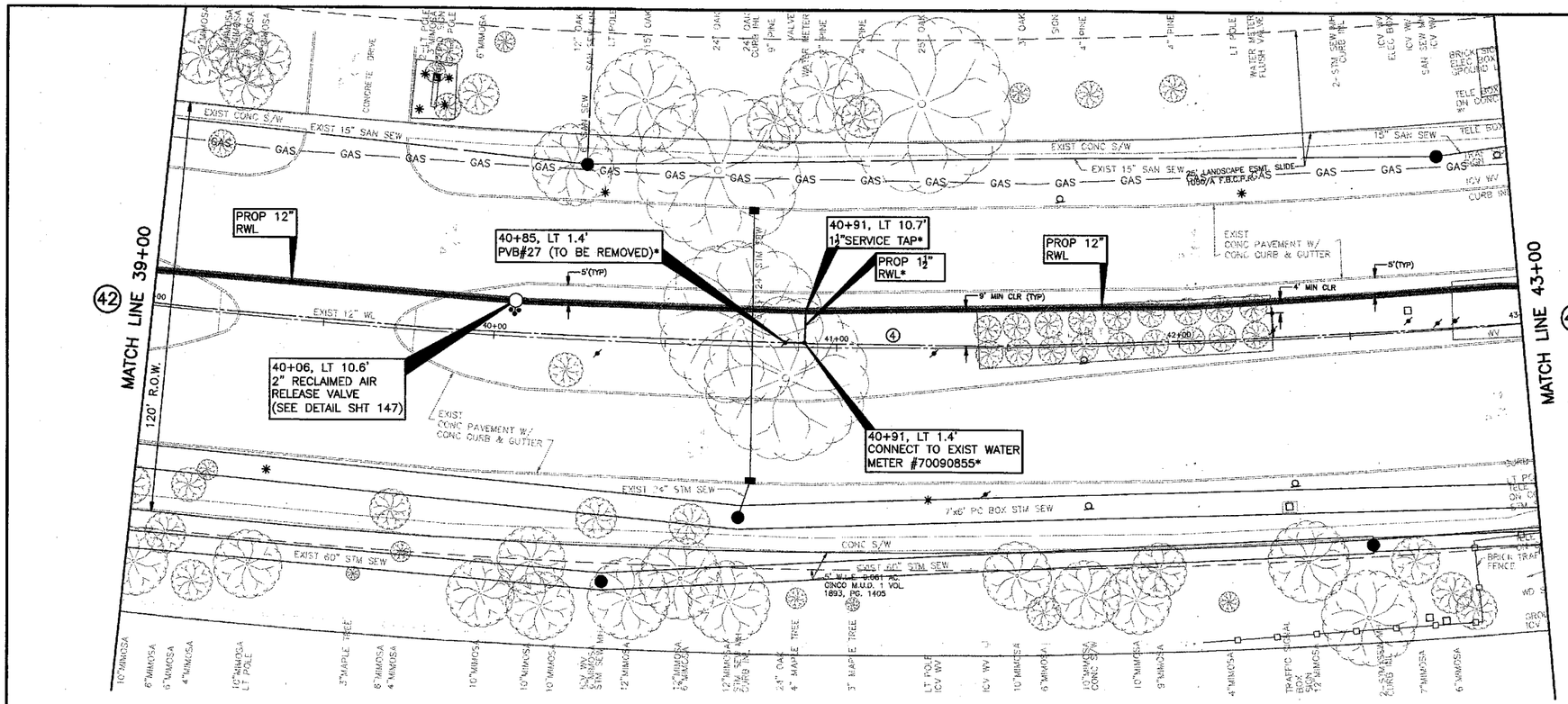
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
MASON ROAD (34+50 TO 39+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MR0
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 42 OF 154

PATH/FILENAME: L:\CINCO\P&P-MR0.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 3:46:12 PM
PLOT DATE: Tuesday, Nov 20, 2012 3:55:00 PM
ANSI D - 20-Nov-12



④
CL CURVE DATA
PC= 30+09.34
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
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CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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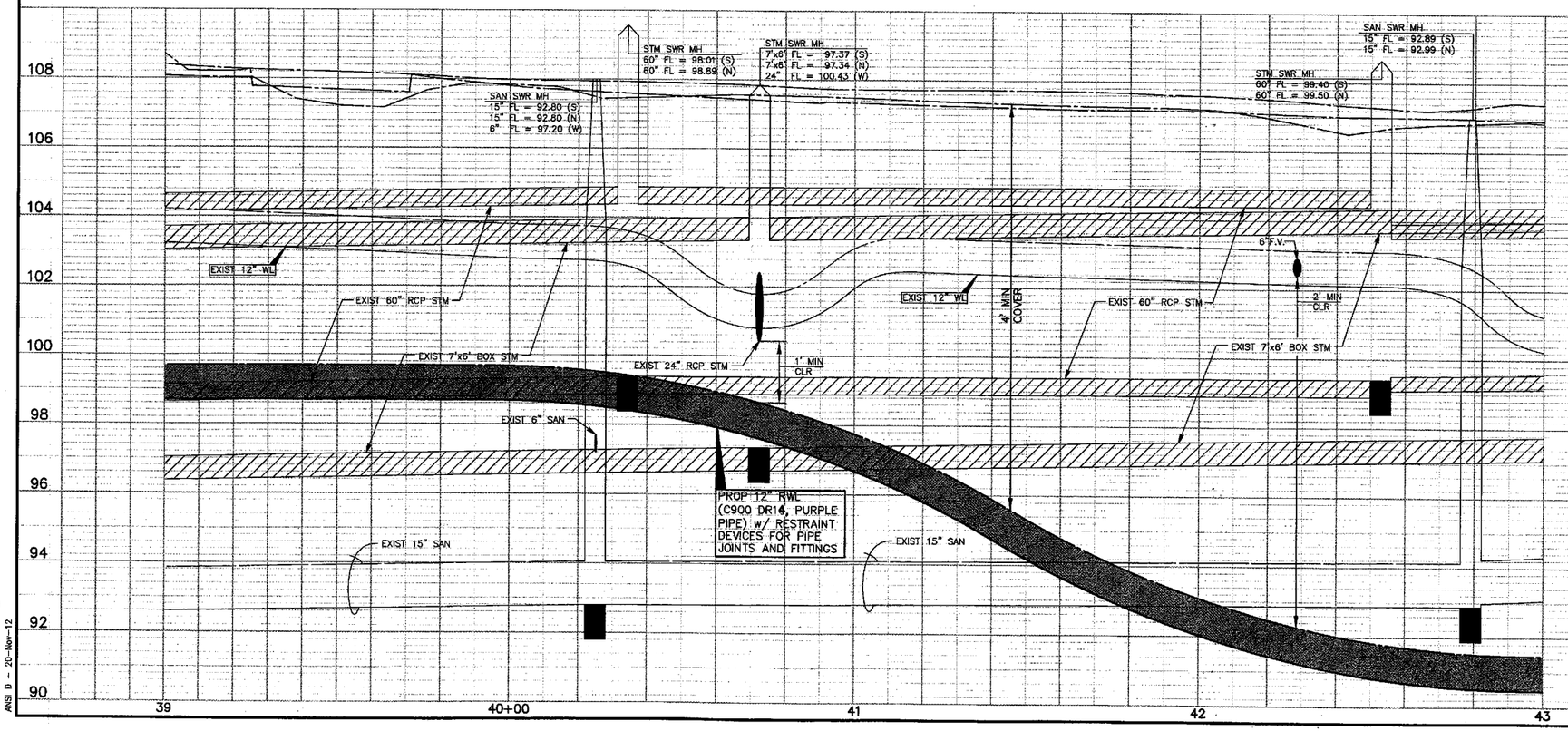
MASON ROAD - FORT BEND



NOTE: (1)
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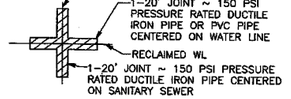

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 43 OF 154

CITY DRAWING NUMBER 52149

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (39+00 TO 43+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 43 OF 154

PATH/FILENAME: L:\CINCO\90\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 3:48:12 PM
PLOT DATE: Tuesday, Nov 20, 2012 3:55:52 PM
ANSI D - 20-Nov-12

MATCH LINE 43+00

MATCH LINE 47+50

43+07, LT 10.3'
1–12" GV & BOX

44+63, RT 5.9'
1–12" x 8" REDUCER
1–8" GV & BOX
1–12" x 12" TEE

PROP 12" RWL

PROP 1½" RWL *

44+76, RT 1.5'
PVB#28 (TO BE REMOVED)*

44+54, RT 5.3'
1½" SERVICE TAP*

44+71, RT 6.5'
1½"SERVICE TAP*

44+71, RT 1.7'
CONNECT TO EXIST WATER METER #70173625*

44+76, LT 7.0'
1–8" GV & BOX

PROP 8" RWL

43+87.87 MASON ROAD=
75+97.48 CINCO RANCH BOULEVARD

PROP 1½" RWL *

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

PLANTER W/ CREPE MYRTLES

SET-BACK AND LANDSCAPE ESMT.

120' R.O.W.

RESTRICTED RESERVE "B"

EXIST 15" SAN SEW

EXIST 10" SAN SEW

EXIST CONC S/W

EXIST 42" STM SEW

EXIST 36" STM SEW

EXIST 12" WL

9' MIN CLR (TYP)

5'(TYP)

CL CURVE DATA
PC= 30+09.34
Δ= 48°49'35"
R= 2000.00'
L= 1704.36'
PT= 47+13.71

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:
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MASON ROAD – FORT BEND

STM SWR MH
7'x6' FL = 97.28 (S)
7'x6' FL = 97.78 (N)
24" FL = 100.87 (W)

STM SWR MH
42" FL = 99.37 (S)
42" FL = 99.37 (N)
24" FL = 101.84 (W)

SAN SWR MH
15" FL = 93.60 (S)
10" FL = 93.75 (W)
10" FL = 95.60 (N)

SAN SWR MH
10" FL = 95.69 (S)
10" FL = 95.69 (N)

SAN SWR MH
10" FL = 95.74 (S)
10" FL = 95.79 (N)
6" FL = 97.81 (W)
6" FL = 102.77 (W)

STM SWR MH
42" FL = 99.68 (S)
42" FL = 99.87 (N)
24" FL = 100.91 (W)

SAN SWR MH
10" FL = 96.16 (S)
10" FL = 96.22 (N)
6" FL = 99.52 (W)

EXIST 24" RCP STM
EXIST 7'x6' BOX STM
EXIST 42" RCP STM
EXIST 12" WL
2' MIN CLR
4' MIN COVER
6"E.V.
EXIST 6" SAN
EXIST 36" RCP STM
EXIST 10" SAN
EXIST 15" SAN

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

108 106 104 102 100 98 96 94 92 90

43 44 45+00 46 47 47+50

NOTE: (1)
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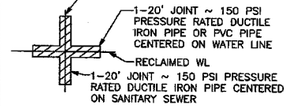

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 8/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 8-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.7.14
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 44 OF 154

52149 CITY DRAWING NUMBER

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 400 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM

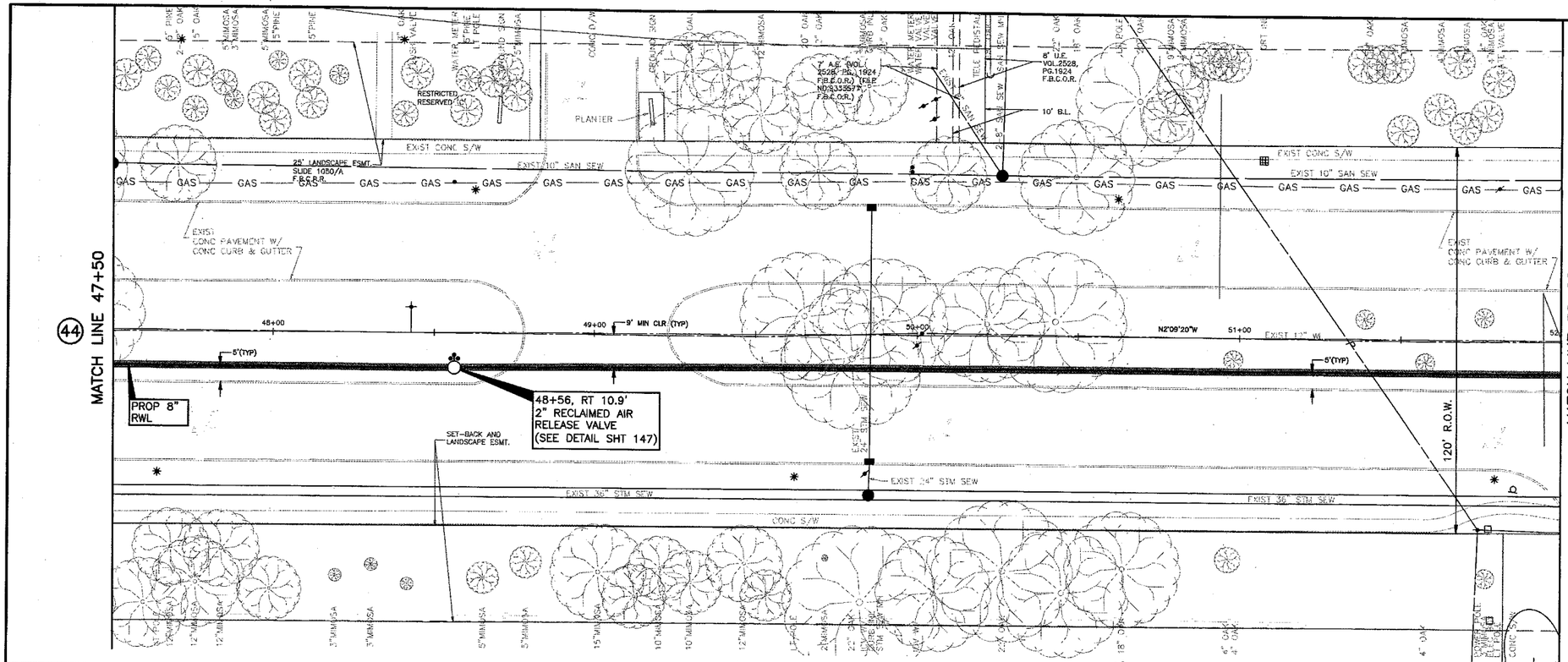
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

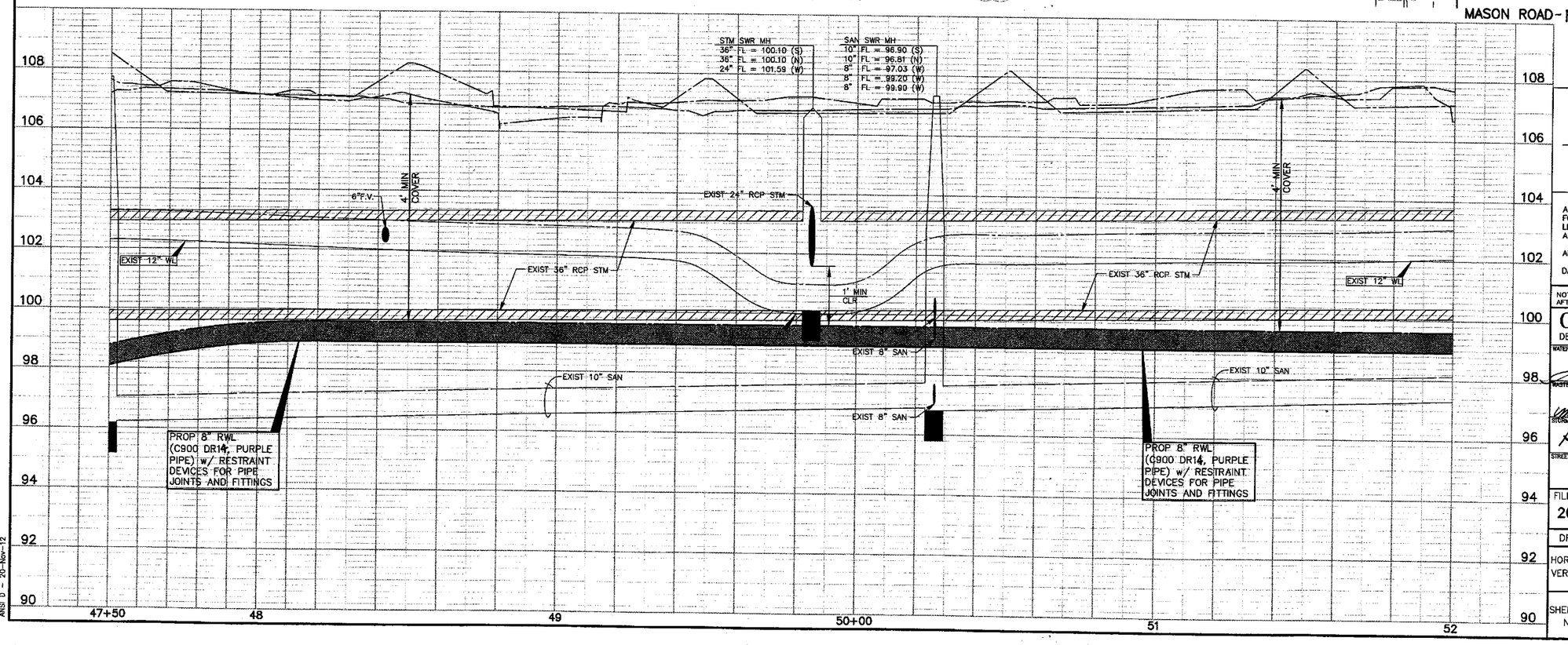
MASON ROAD (43+00 TO 47+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 44 OF 154

PATH/FILENAME: L:\CINCO\...\P&P-MRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 3:46:12 PM
PLOT DATE: Tuesday, Nov 20, 2012 3:56:14 PM
ANSI D – 20–Nov–12





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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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MASON ROAD - FORT BEND

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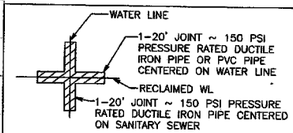

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 45 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (47+50 TO 52+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 45 OF 154

PATH/FILENAME: L:\CINCO\[illegible]66B\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, [illegible]20, 2012 3:48:12 PM
PLOT DATE: Tuesday, [illegible], 2012 3:56:35 PM
ANSI D - 20-Nov-12

MATCH LINE 52+00

(45)

MATCH LINE 56+50

(47)

54+88, LT 2.1'
PVB#29 (TO BE REMOVED)*

55+42, LT 10.5'
1–8" x 45° BEND

55+25, RT 10.5'
1–8" x 45° BEND

PROP 8" RWL

PROP 8" RWL

PROP 8" RWL

PROP 1½" RWL*

54+94, RT 10.5'
1½"SERVICE TAP*

54+94, LT 2.5'
CONNECT TO EXIST WATER METER #1237817*

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

120' R.O.W.

5'(TYP)

9' MIN CLR (TYP)

EXIST 12" WL

N2°09'20"W

SET-BACK AND LANDSCAPE ESMT.

PLANTER W/ CREPE MYRTLES

EXIST 24" STM SEW

EXIST 36" STM SEW

24" STUMP

EXIST CONC S/W

EXIST 24" STM SEW

GRACE FELLOWSHIP UMC

DITCH FLOWLINE

DITCH FLOWLINE

EXIST 10" SAN SEW

CENTERPOINT GAS

CONSOLIDATED COMMUNICATION

SET-BACK AND LANDSCAPE ESMT. VOL. 556, PG. 285 F.B.C.P.R.

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

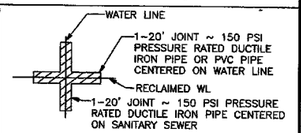
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

MASON ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jawad Amd 4.7.14
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 46 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

STM SWR MH
36" FL = 100.51 (S)
36" FL = 100.61 (N)
24" FL = 101.59 (E)
24" FL = 102.51 (W)

SAN SWR MH
10" FL = 97.95 (S)
10" FL = 98.10 (N)
8" FL = 98.13 (W)
8" FL = 98.23 (W)
8" FL = 101.97 (W)

SAN SWR MH
10" FL = 98.26 (S)
10" FL = 98.38 (N)
10" FL = 99.11 (E)

EXIST 24" RCP STM
EXIST 36" RCP STM
EXIST 24" RCP STM
EXIST 12" WL
6"F.V.
6"F.V.
EXIST 12" WL
EXIST 8" SAN
EXIST 36" RCP STM
EXIST 10" SAN
EXIST 8" SAN
EXIST 8" SAN
EXIST 10" SAN
EXIST 10" SAN
EXIST 10" SAN
4' MIN COVER
2' MIN CLR
1' MIN CLR

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

108 106 104 102 100 98 96 94 92 90

52 53 54 55+00 56 56+50

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101, WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

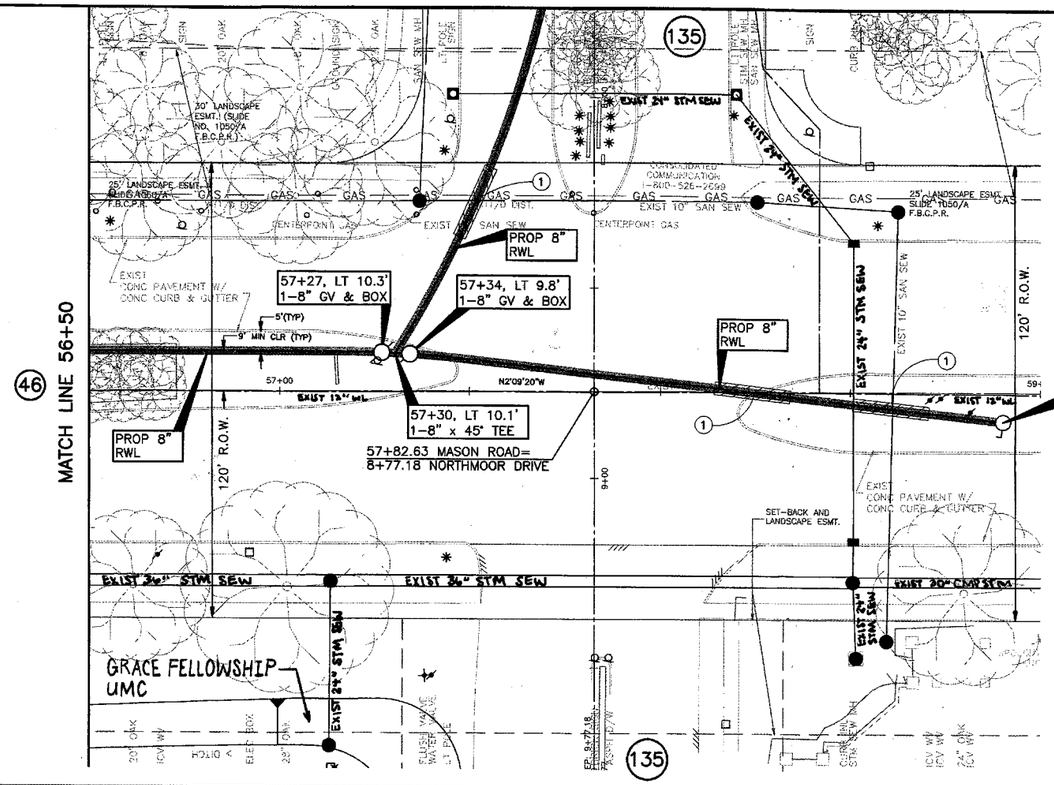
CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (52+00 TO 56+50)

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P–MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 46 OF 154

PATH/FILENAME: L:\DWG\P&P–MRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 3:48:12 PM
PLOT DATE: Tuesday, Nov. 20, 2012 3:56:57 PM
ANSI D – 20–Nov–12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

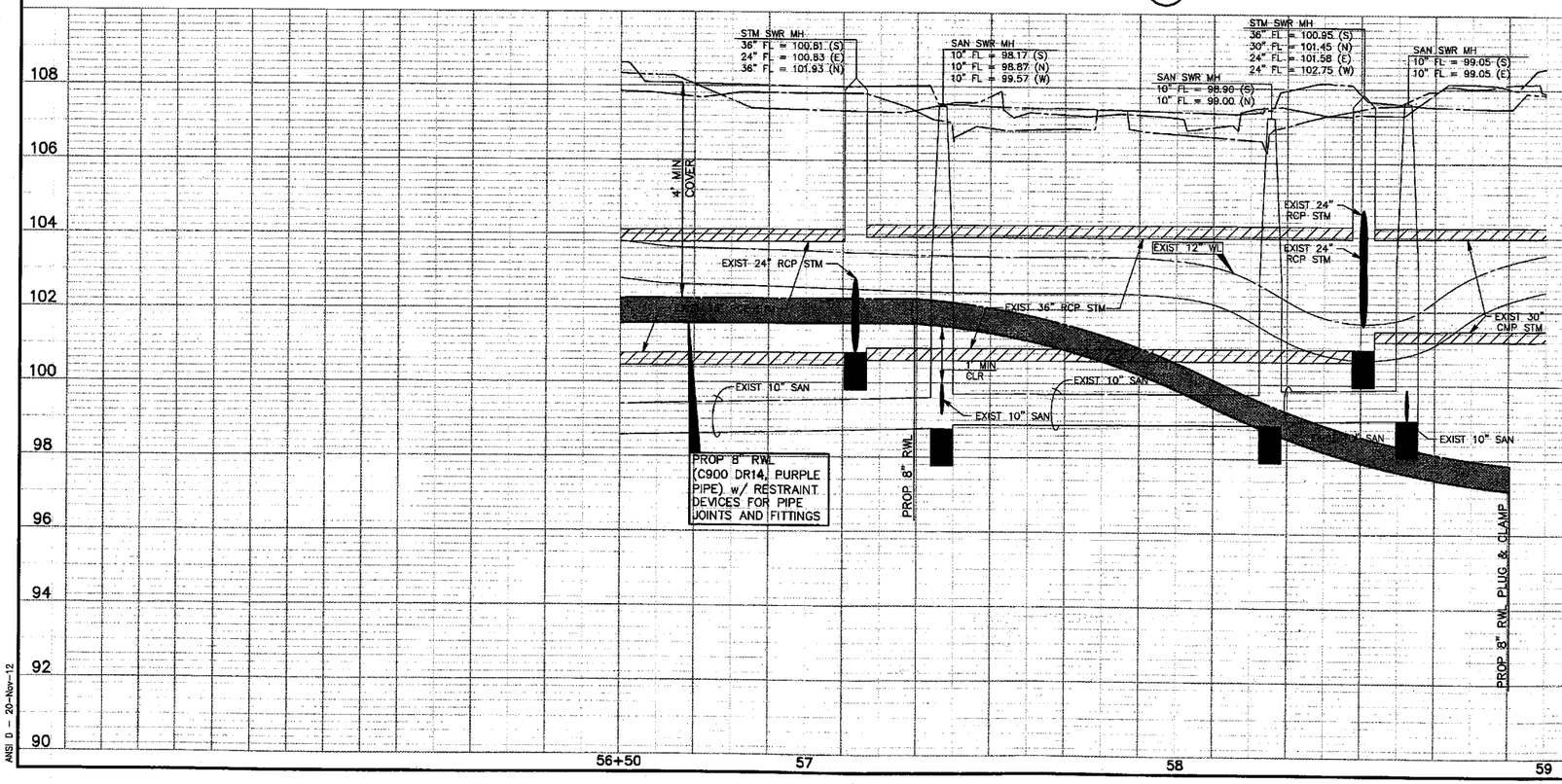
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

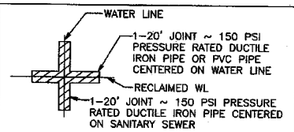
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

MASON ROAD - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 7/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 47 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/26/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

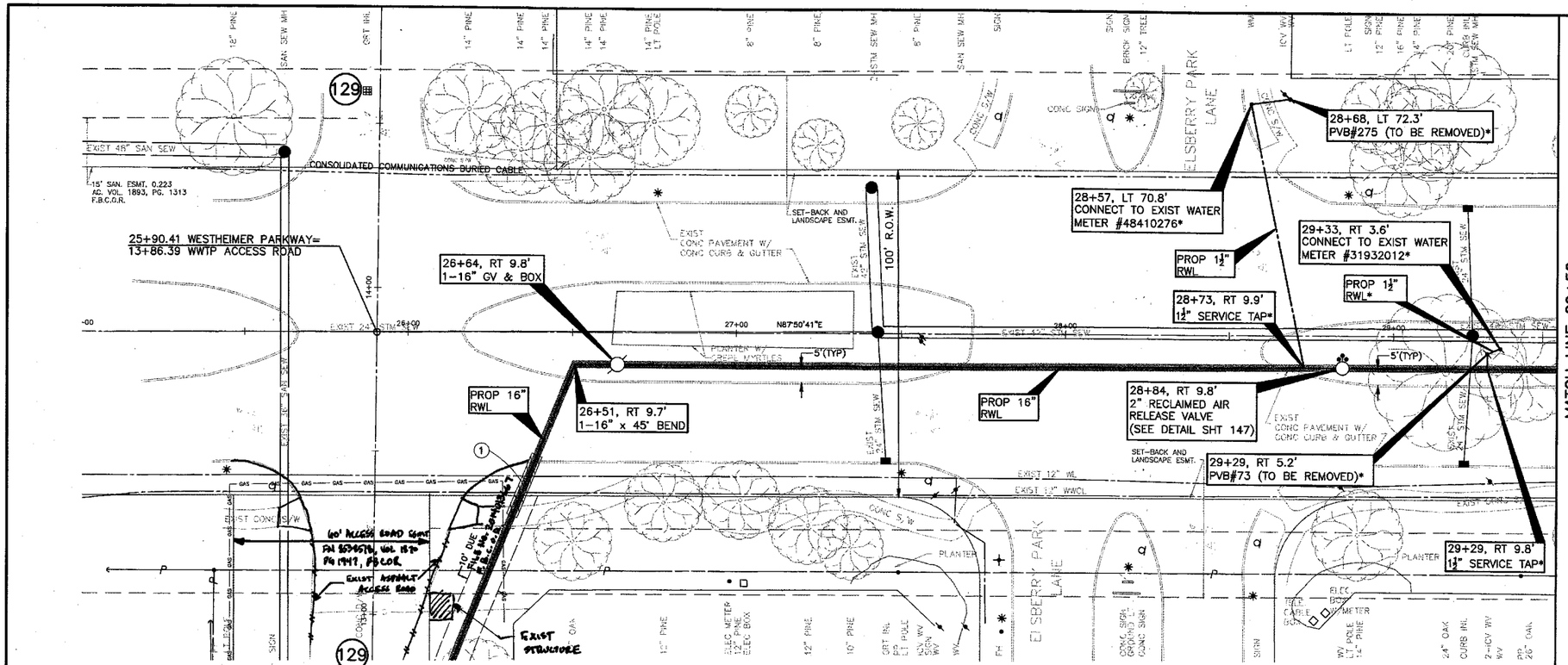
CINCO RANCH RECLAIMED WATER SYSTEM

MASON ROAD (56+50 TO 59+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 47 OF 154

PATH/FILENAME: L:\CINCO*99\DWG\P&P-MRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 3:48:12 PM
PLOT DATE: Tuesday, Nov. 20, 2012 3:57:19 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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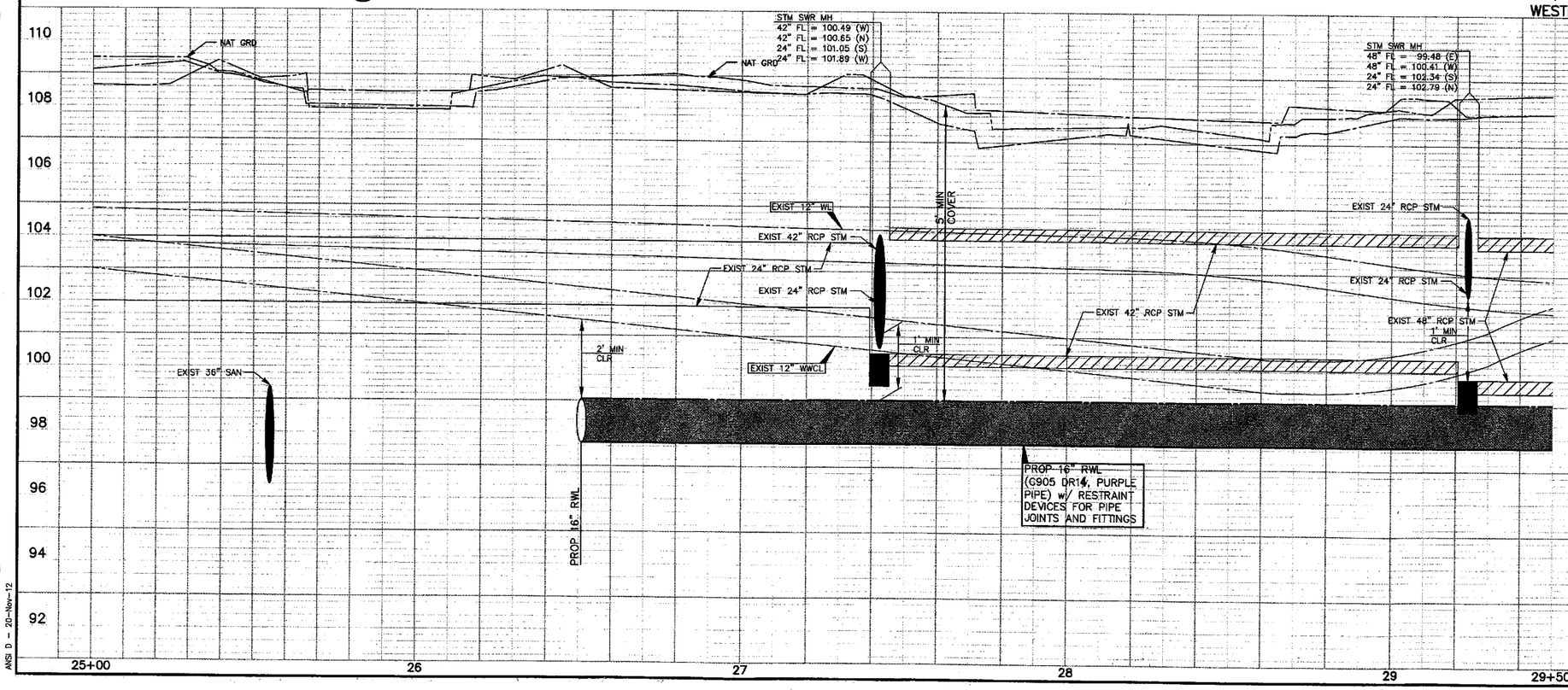

NOTE: (1)
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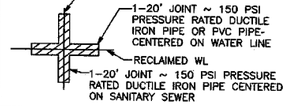


APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ FOR THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
4-13-14	
WASTEWATER	STORM WATER QUALITY
4-15-14	
STORM	FACILITIES
4-15-14	4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 48 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2101 CITYWEST BLVD., SUITE 101 WEST
HOUSTON, TEXAS 77042-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

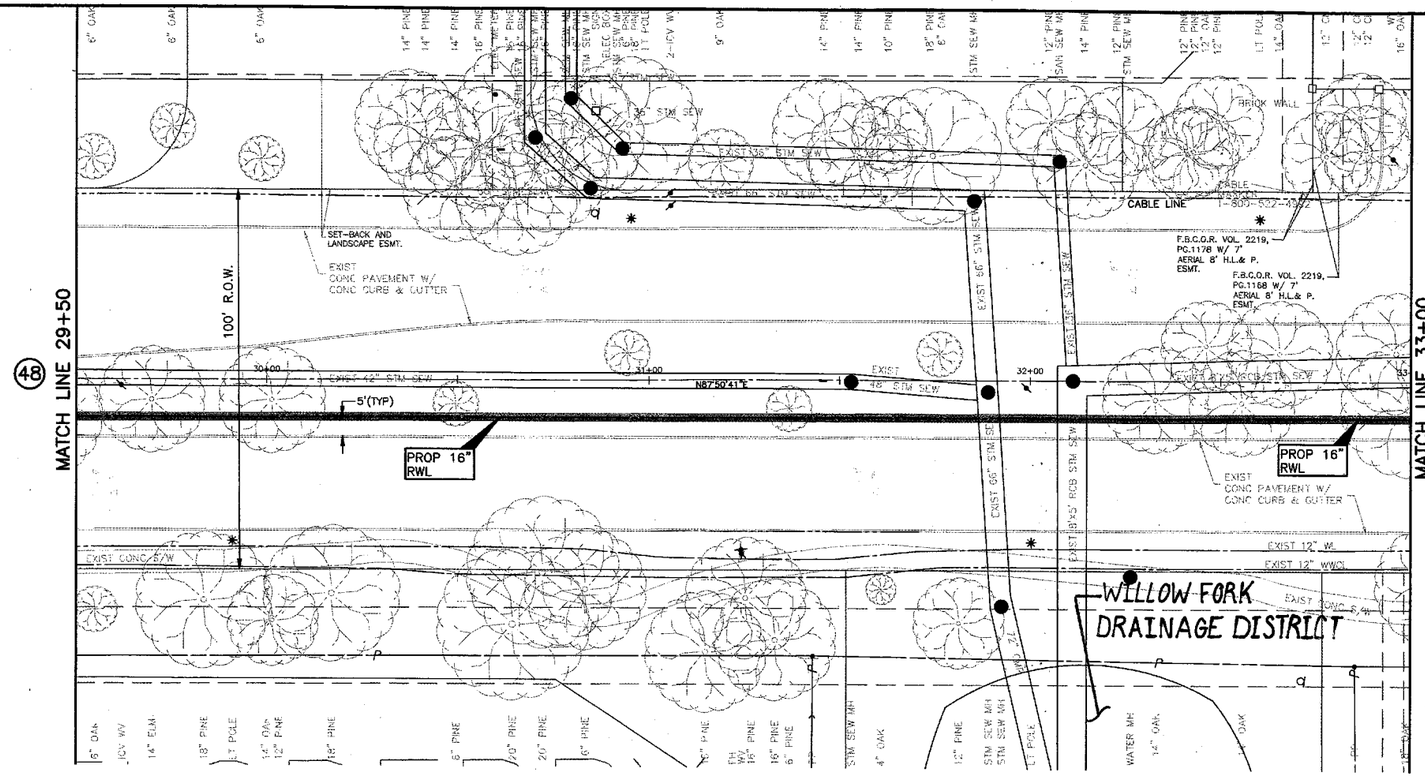
CINCO RANCH RECLAIMED WATER SYSTEM

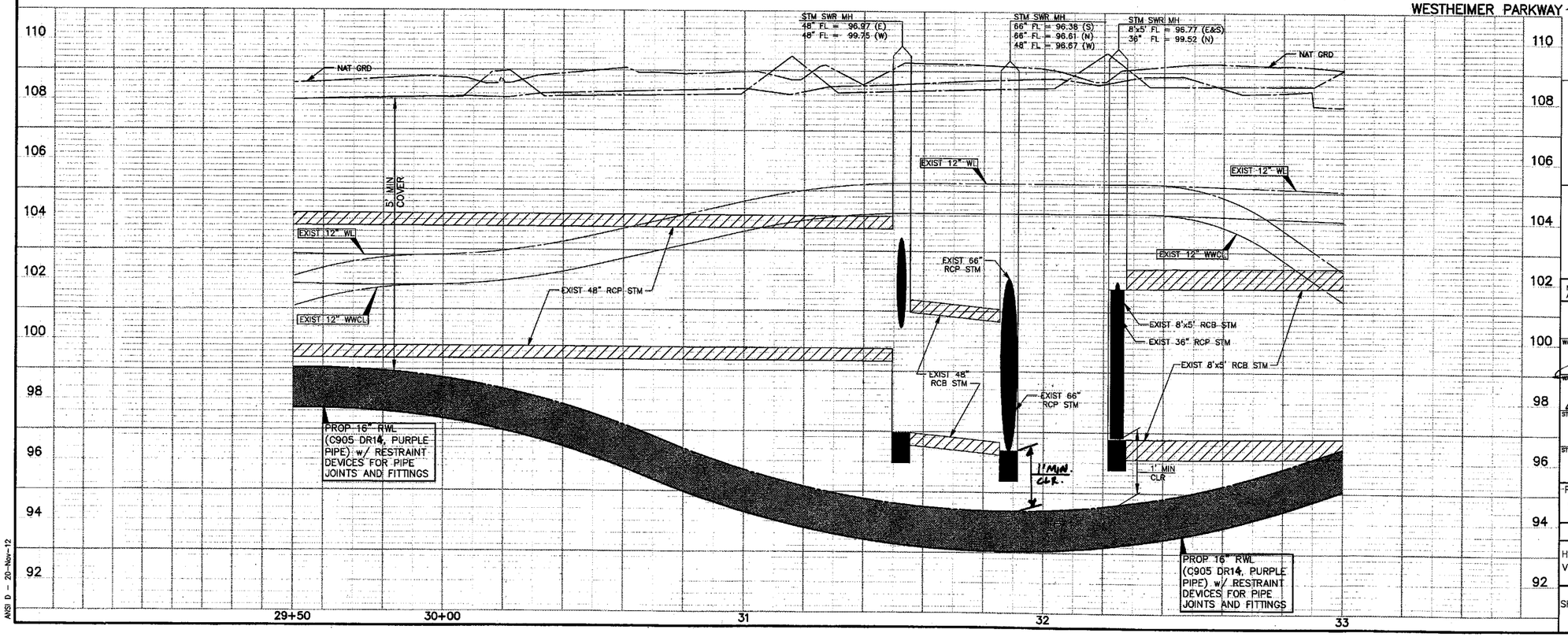
WESTHEIMER PARKWAY (25+00 TO 29+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 48 OF 154

PATH/FILENAME: L:\CINCO\...\dwg\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ... 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, N... 2012 8:02:32 PM
ANSI D - 20-Nov-12





NOTE: (1)

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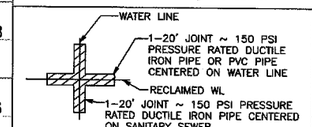

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION -

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 49 OF 154

52149 — DRAWING PREPARED BY

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194668, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 4/30/15

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

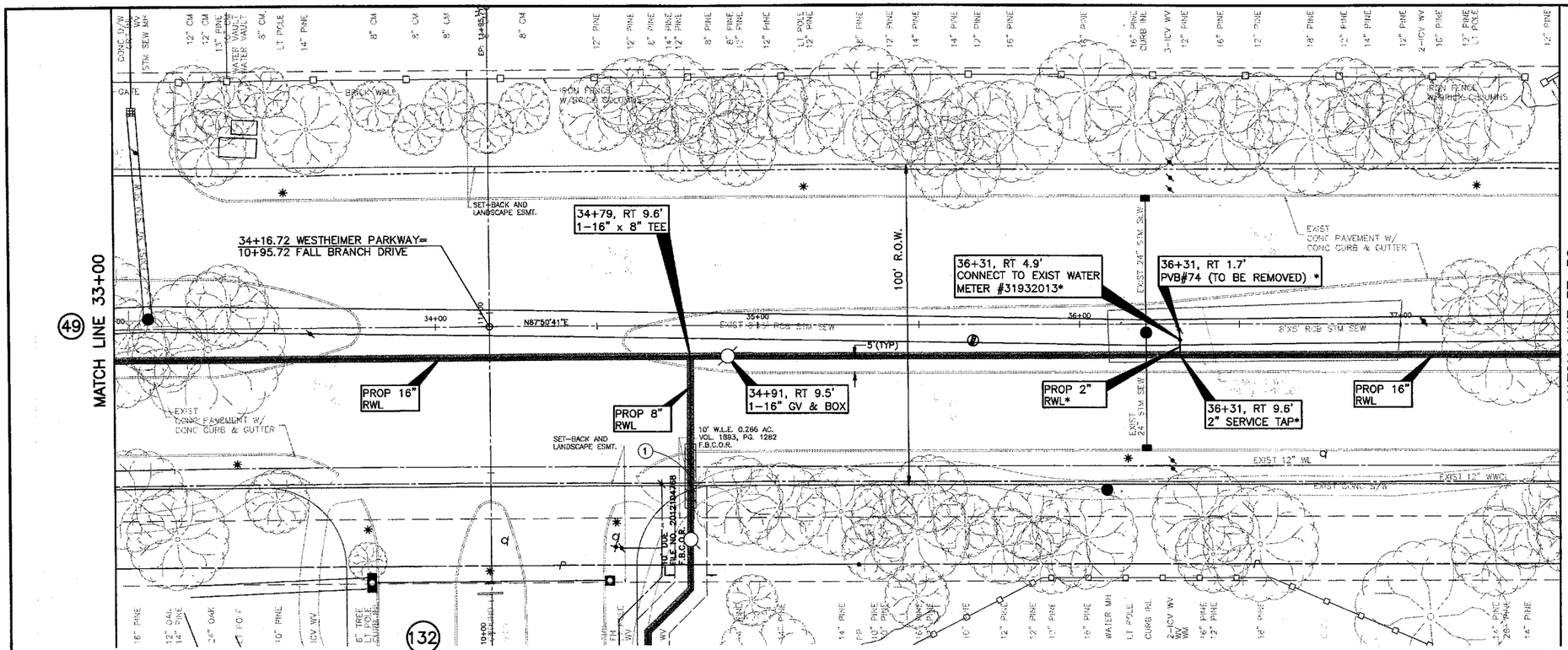
CINCO RANCH RECLAIMED WATER SYSTEM

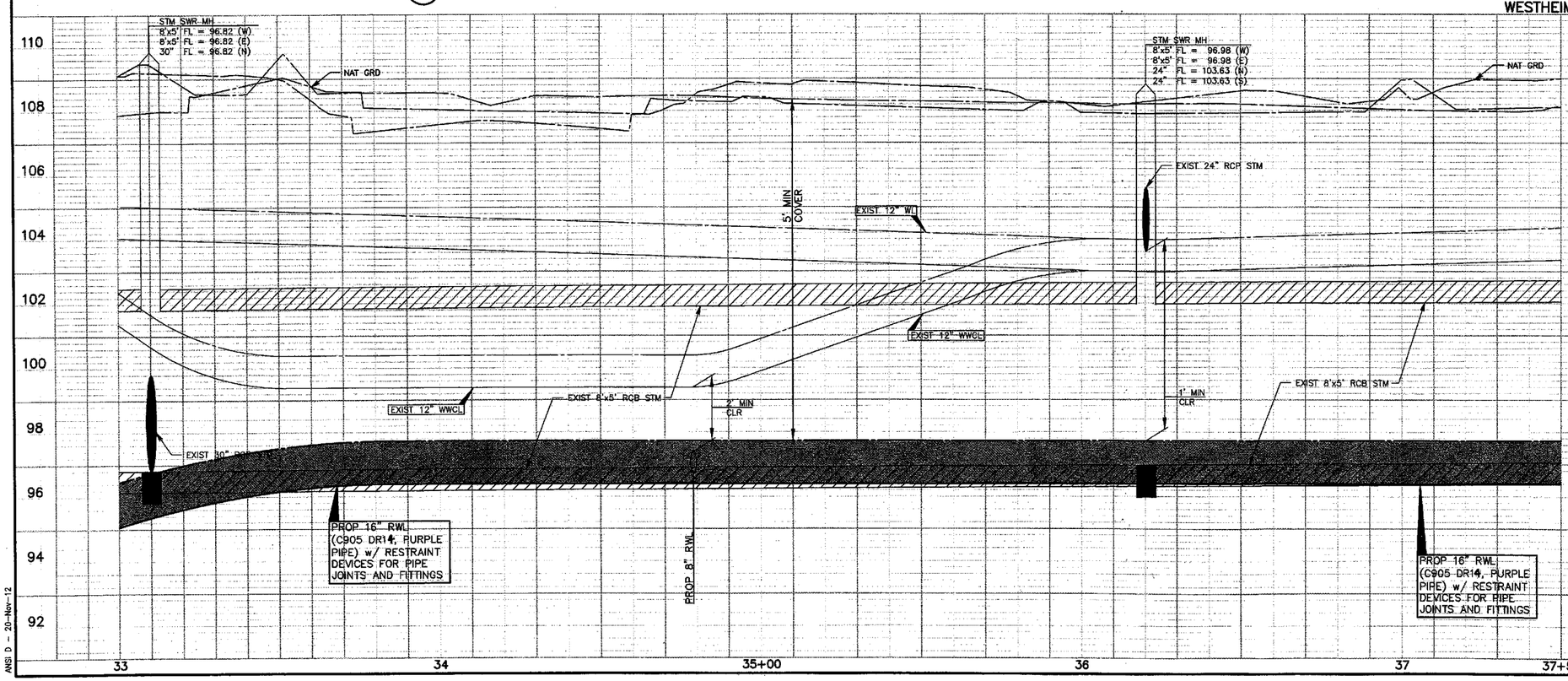
WESTHEIMER PARKWAY (29+50 TO 33+00)

PROJECT NO:	60194668 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 49 OF 154

PATH/FILENAME: L:\CINC...\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ...20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov...20, 2012 8:03:07 PM
ANSI D — 20-Nov-12





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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

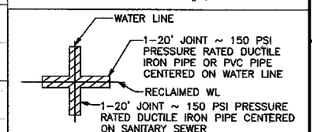
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER) *
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

WESTHEIMER PARKWAY - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 50 OF 154

52149
GIS DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

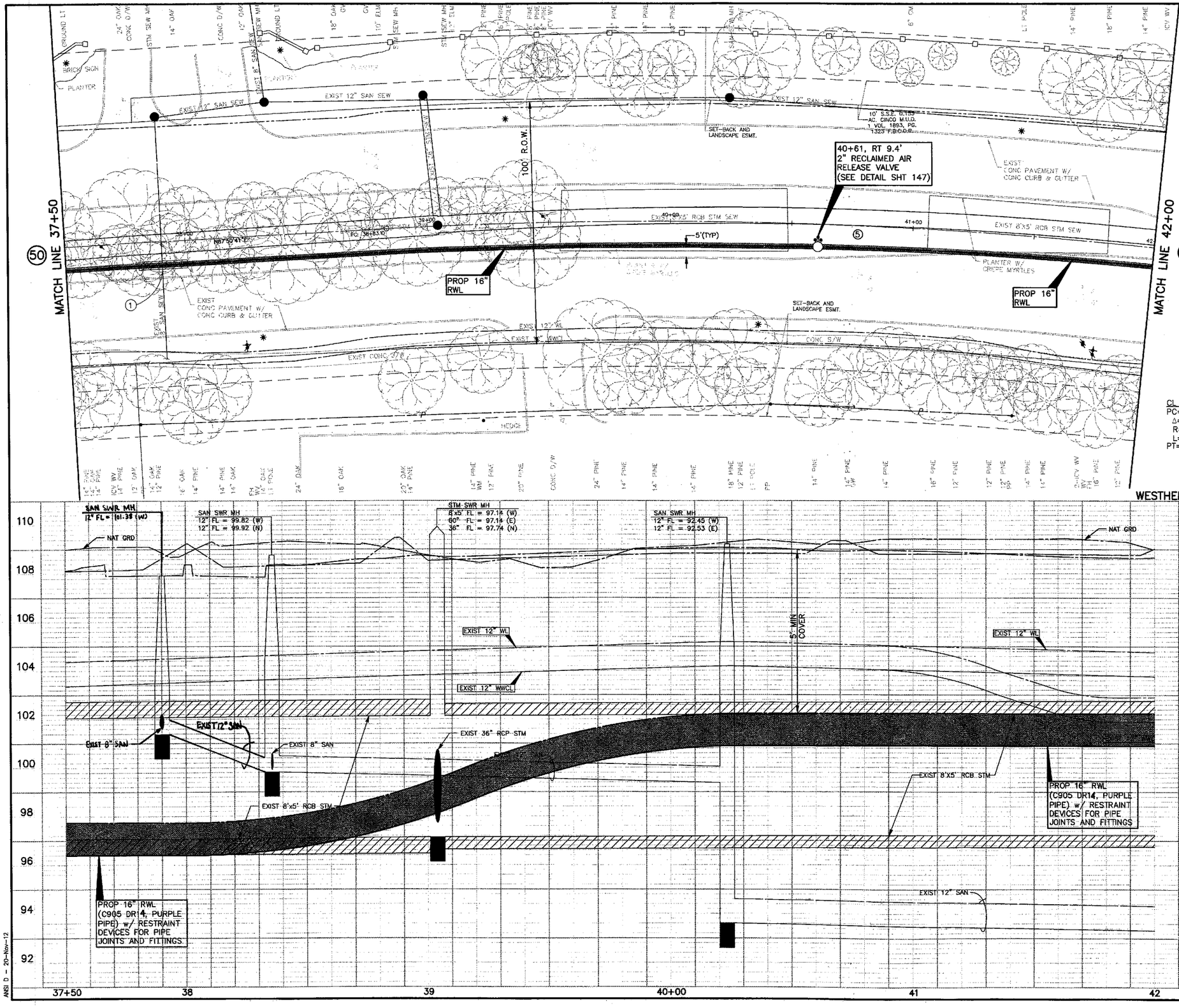
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (33+00 TO 37+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 50 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:03:42 PM
ANSI D - 20-Nov-12



WESTHEIMER PARKWAY - FORT BEND

CL CURVE DATA
PC= 38+83.10
Δ= 15°19'09"
R= 2000.00'
L= 534.74'
PT= 44+17.84

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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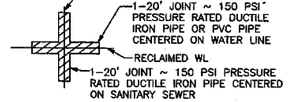
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 51 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WESTHEIMER, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
REGISTERED PROFESSIONAL ENGINEER
5/14/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

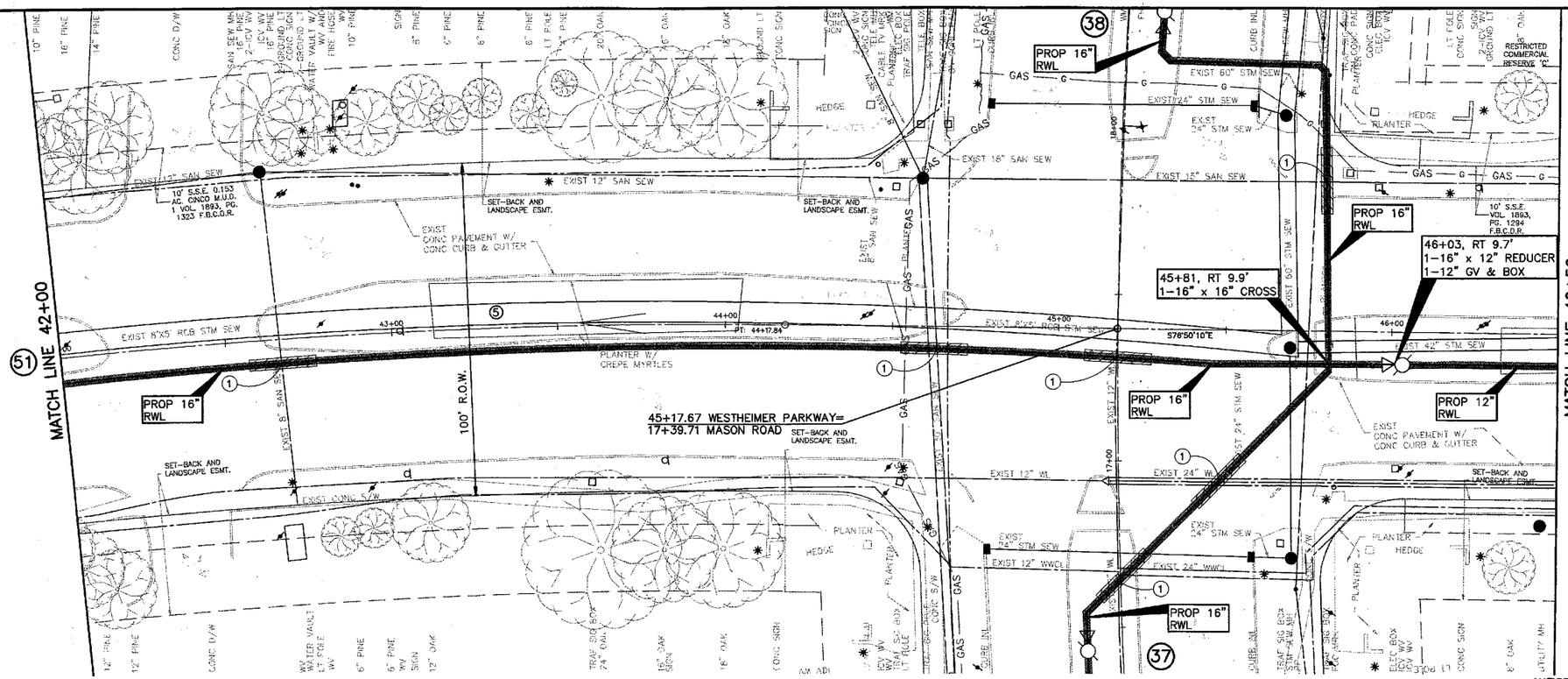
CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (37+50 TO 42+00)

PROJECT NO: 60194669 (WSD)
CAD DWG FILE: P&P-WPKY
DESIGNED BY: DE
DRAWN BY: JE
DEPT CHECK:
PROJ CHECK:
DATE: DECEMBER 2012
SCALE: 1" = 20'

SHEET 51 OF 154

52149
CITY DRAWING NUMBER
CONSTRUCTION
RECORD DRAWING
HOUSTON, TEXAS

PATH/FILENAME: L:\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:04:17 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

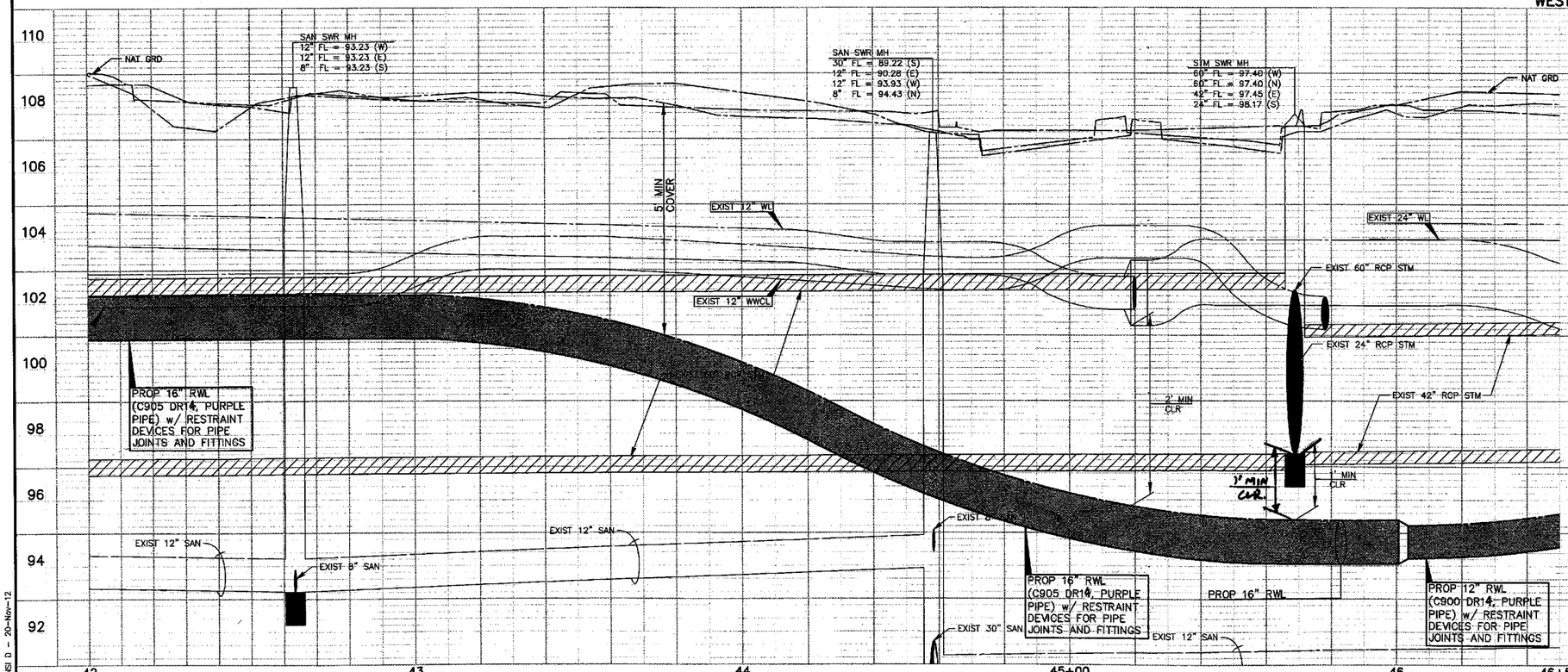
CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

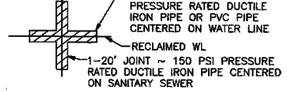
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

WESTHEIMER PARKWAY - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.5.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 52 OF 154

52149 — CITY DRAWING NUMBER — HOUSTON, TEXAS

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 11/6/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (42+00 TO 46+50)

SHEET 52 OF 154

PATH/FILENAME: L:\CINCO\69\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:04:52 PM
ANSI D - 20-Nov-12

MATCH LINE 46+50 (52)

MATCH LINE 51+25 (54)

EXIST CONC S/W

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

PLANTER W/ CREPE MYRTLES

GAS — G

EXIST 15" SAN SEW

EXIST 10" SAN SEW

EXIST 10" FM

EXIST 42" STM SEW

EXIST 24" STM SEW

EXIST 54" STM SEW

30' LANDSCAPING ESMT. VOL 1575, PG. 1 & 78 F.B.C.O.R.

10' S.S.E. VOL 1893, PG. 1294 F.B.C.O.R.

10' S.S.E 0.470 AC. CINCO M.U.D. 1 VOL. 1893, PG. 1294 F.B.C.O.R. F.N. KB33817 F.C. 054-74-0660 H.C.O.P.R.R.P.

RESTRICTED COMMERCIAL RESERVE 'C'

RESTRICTED COMMERCIAL RESERVE 'B'

100' R.O.W.

50+00, RT 6.3'
2" RECLAIMED AIR RELEASE VALVE (SEE DETAIL SHT 147)

49+93, RT 6.1'
1-12" GV & BOX

PROP 12" RWL

PC: 48+68.55

47+00 48+00 50+00 51+00

S76°50'10"E

5'(TYP)

SET-BACK AND LANDSCAPE ESMT.

EXIST 24" WL

EXIST 24" RWCL

EXIST 8" WL

CONC S/W

CONC D/W

CONC SIGN 4" DIA FOG MRK ICV WV

4" OAK 4" PINE WV 4" PINE LT PINE WM ICV WV CURB INL STM SEW MH ICV WV 4" DIA FOG MRK 4" DIA CONC SIGN

2-WM 7" OAK SIGN 7" PINE 6" PINE 6" PINE 8" PINE 6" PINE 6" PINE LT POLE 8" OAK ICV WV 6" PINE

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

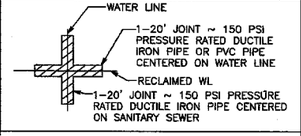
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECCESARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

⑥

CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

WESTHEIMER PARKWAY - FORT BEND

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12.13.13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 53 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (46+50 TO 51+25)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 53 OF 154

PATH/FILENAME: L:\CIN\19\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:39:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:03:27 PM
ANSI D - 20-Nov-12

110 108 106 104 102 100 98 96 94 92

46+50 47 48 49 50+00 51 51+25

NAT GRD

STM SWR MH
42" FL = 97.81 (W)
42" FL = 97.81 (E)
24" FL = 101.90 (N)
24" FL = 101.90 (S)

SAN SWR MH
12" FL = 92.45 (W)
12" FL = 92.53 (E)

4' MIN COVER

EXIST 6" STL GAS LINE

2-EXIST 24" RCP STM

EXIST 24" WL

EXIST 10" FM

8" WL

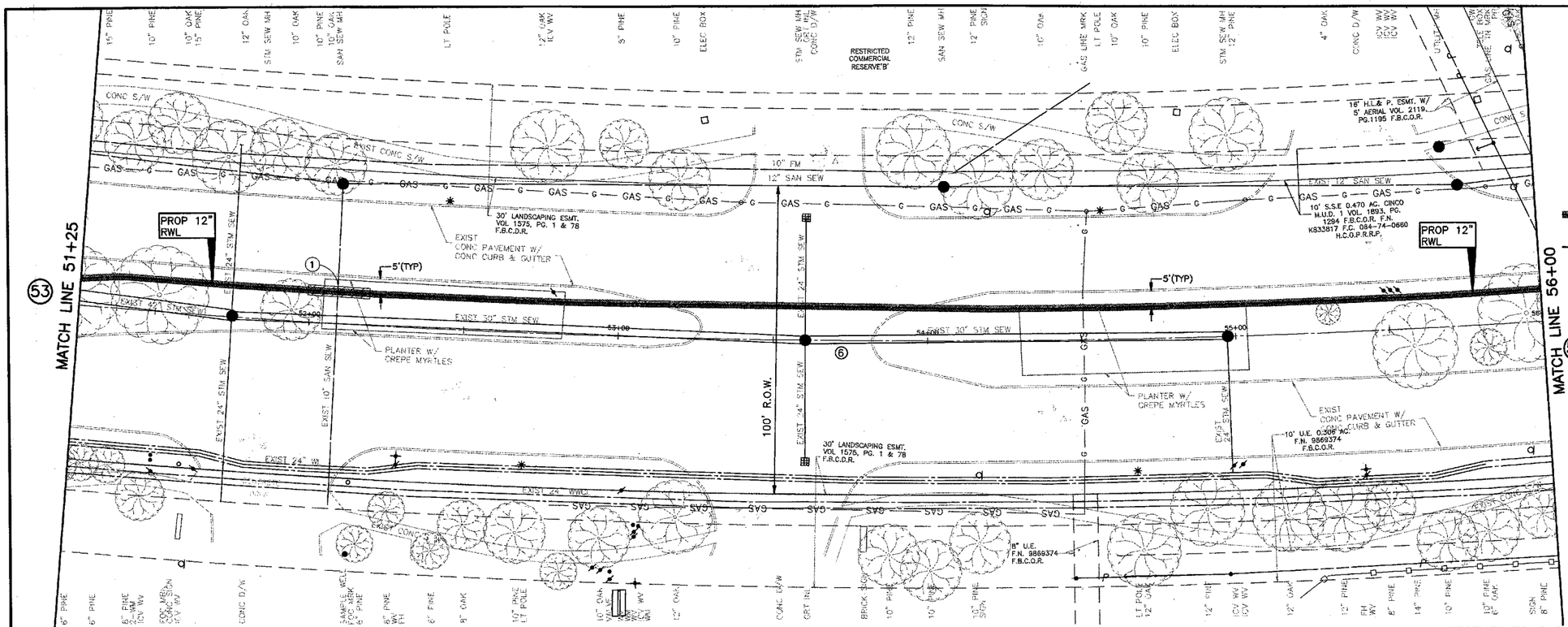
EXIST 42" RCP STM

1' MIN CLR

2' MIN CLR

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

EXIST 12" SAN



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

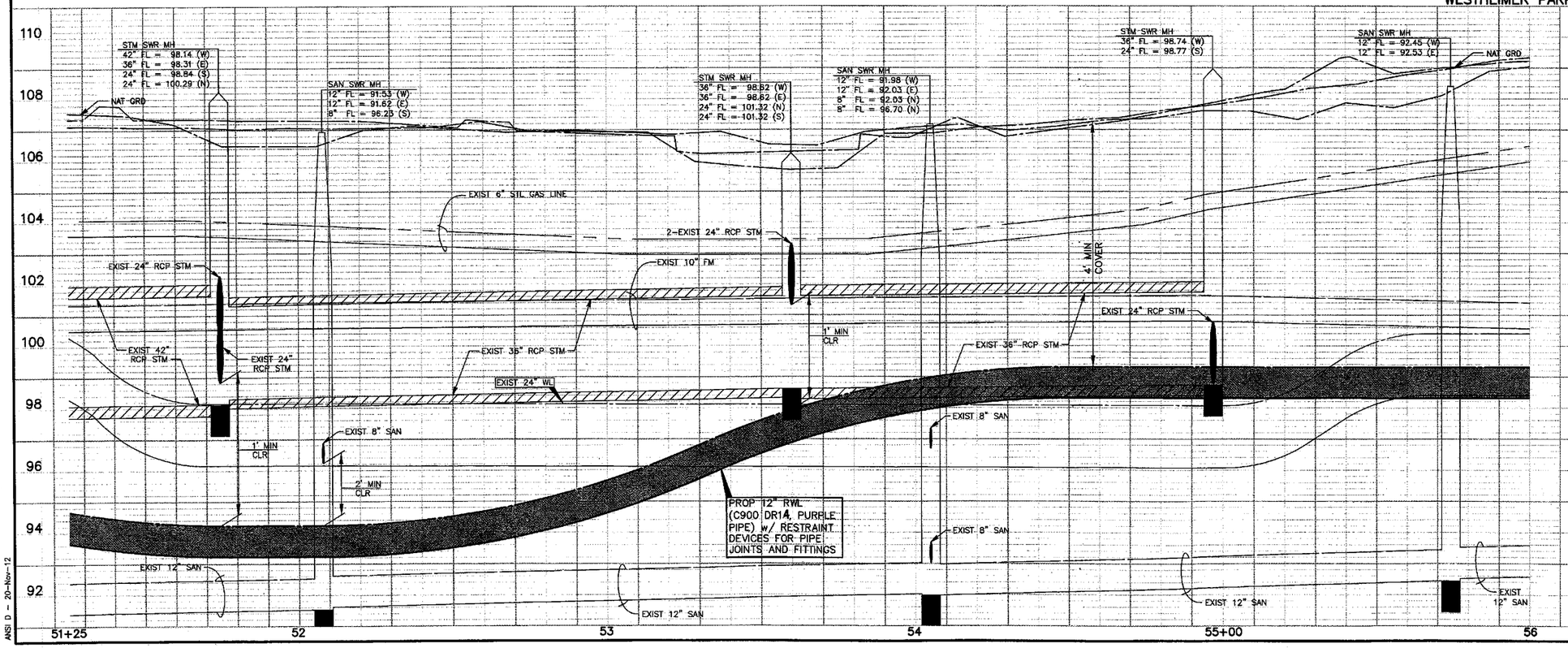
POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

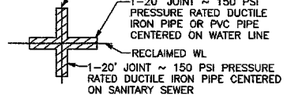
⑥

CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

WESTHEIMER PARKWAY - FORT BEND



NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 54 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	REVISIONS DESCRIPTION

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

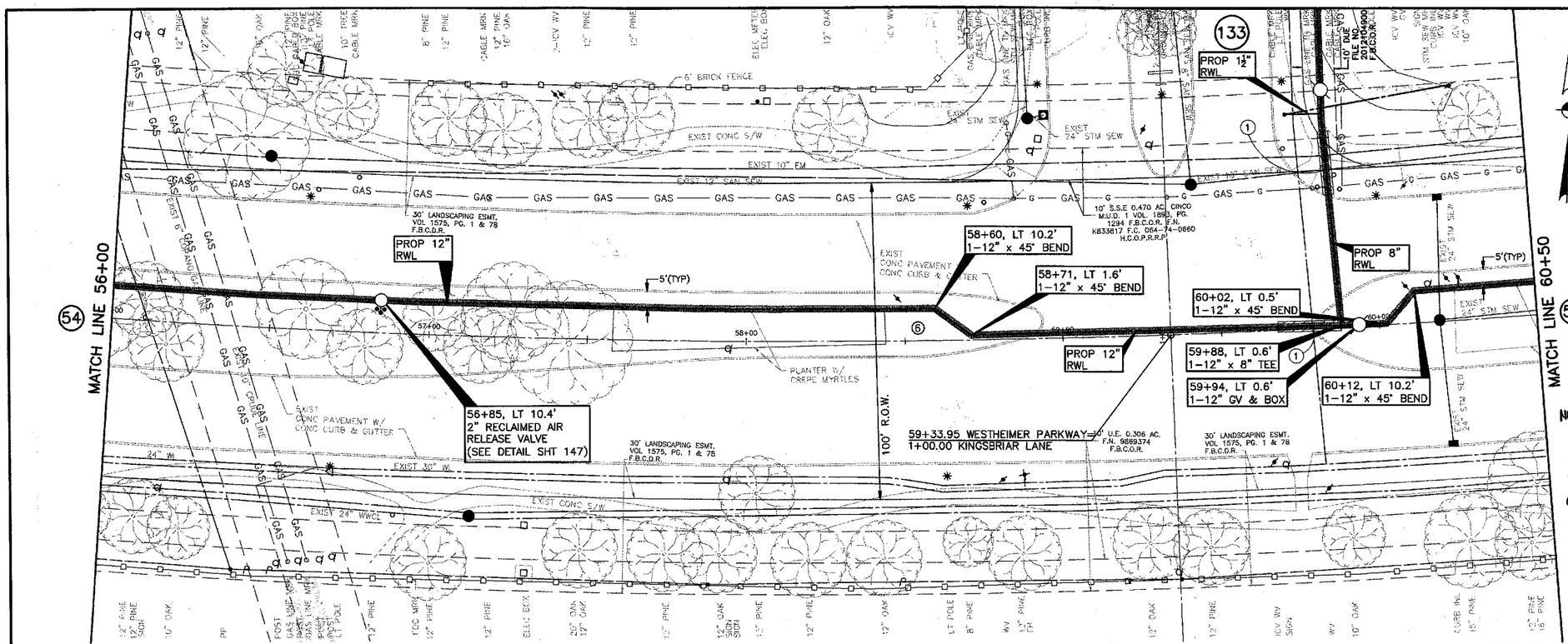
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (51+25 TO 56+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 54 OF 154

PATH/FILENAME: L:\CINCO\...\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:06:02 PM
ANSI D - 20-Nov-12



SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

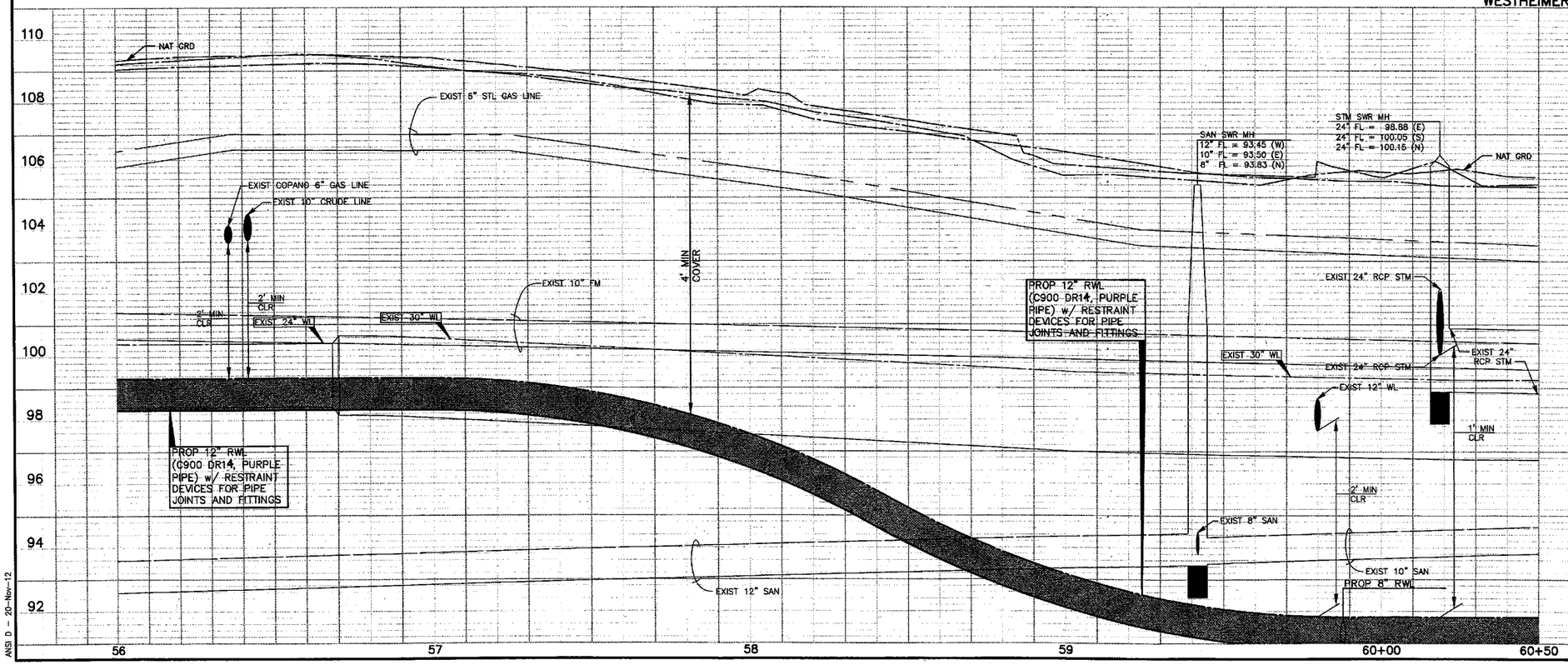
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

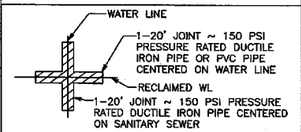
CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

⑥ CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

WESTHEIMER PARKWAY - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 55 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

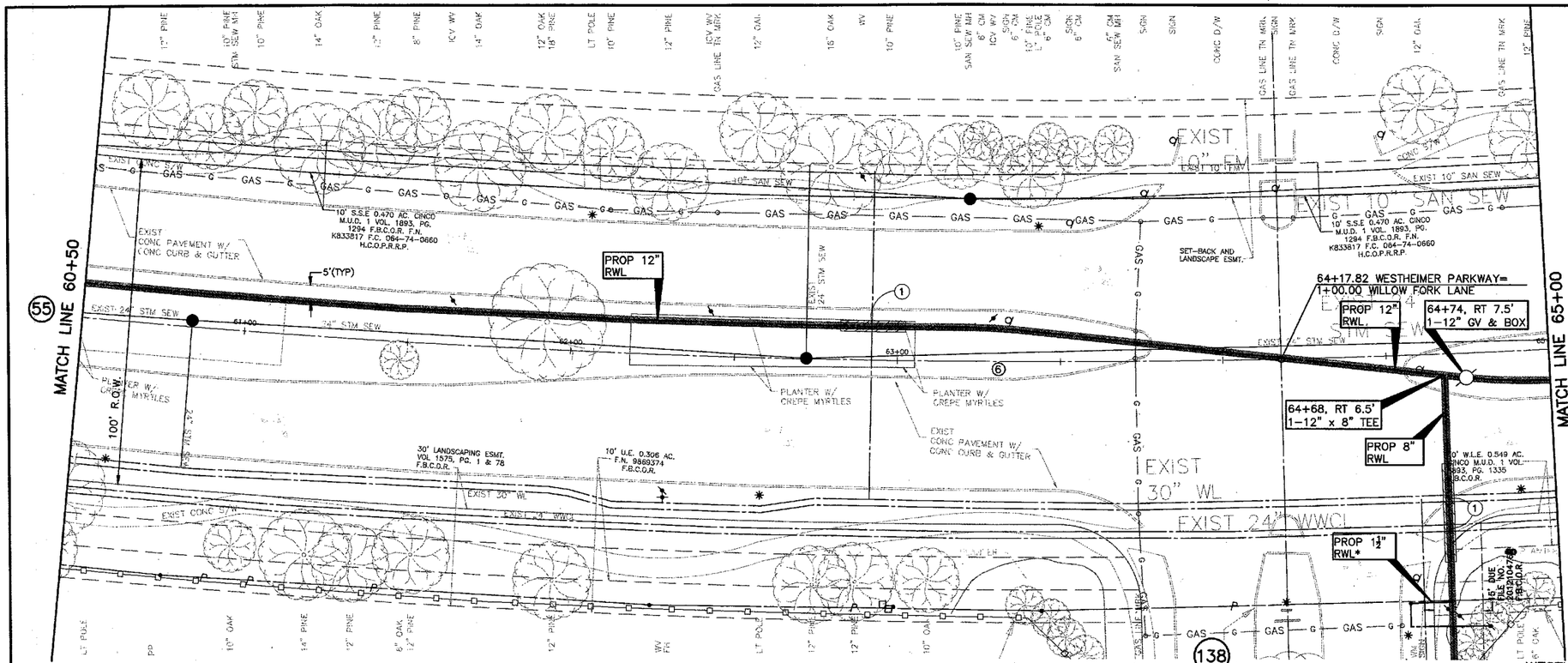
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

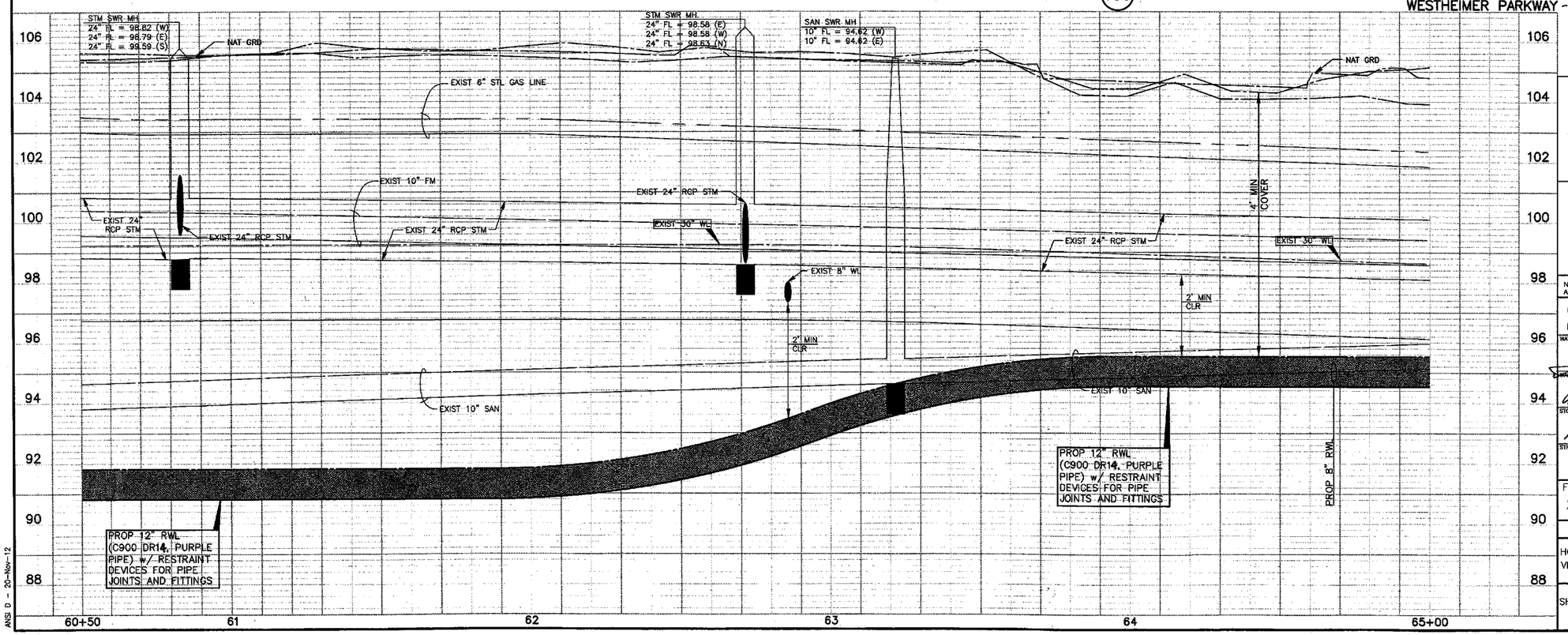
CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (56+00 TO 60+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 55 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov..., 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov..., 2012 8:06:37 PM
ANSI D - 20-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

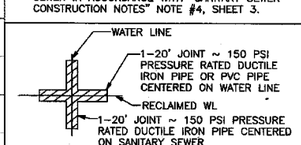
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

⑥

CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

WESTHEIMER PARKWAY - FORT BEND

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-15-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

52149
CITY DRAWING NUMBER

SHEET No: 56 OF 154

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
2101 CITYWEST BLVD., SUITE 101
HOUSTON, TEXAS 77042-1568
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

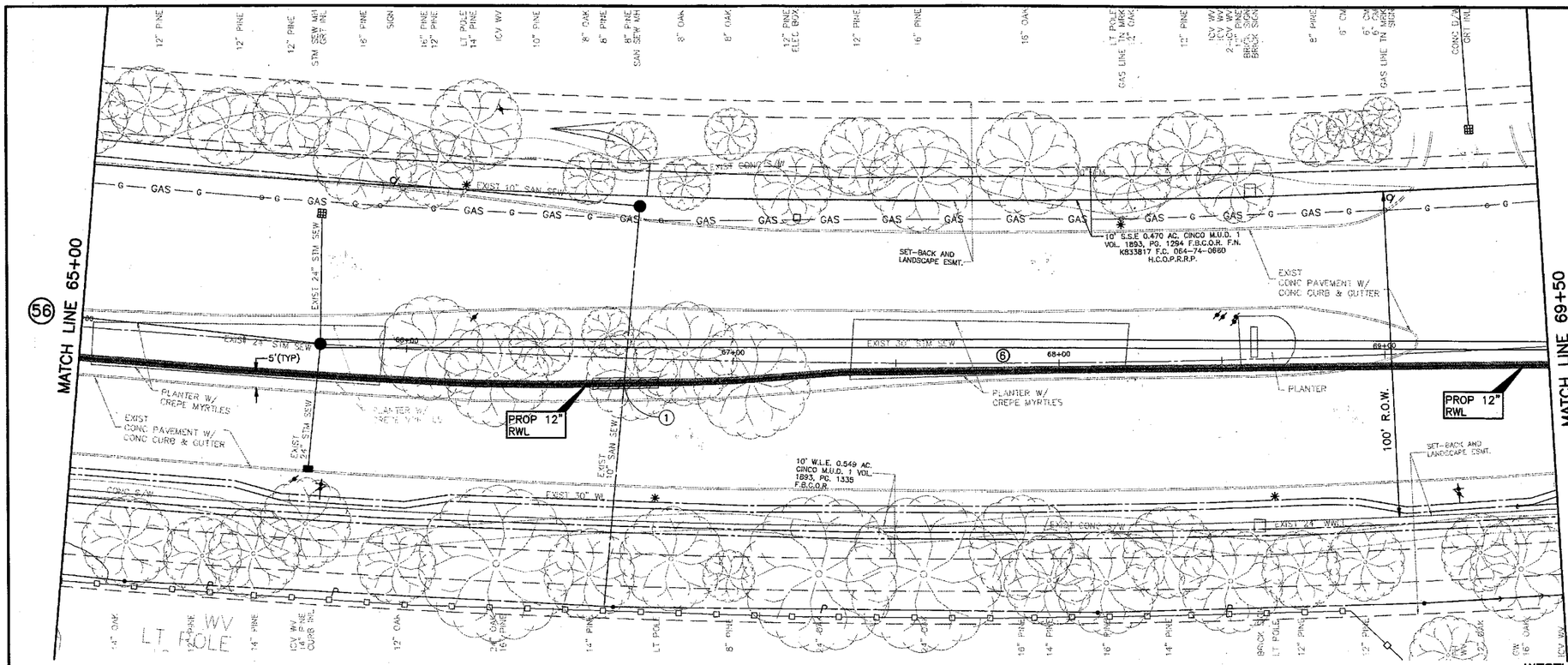
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

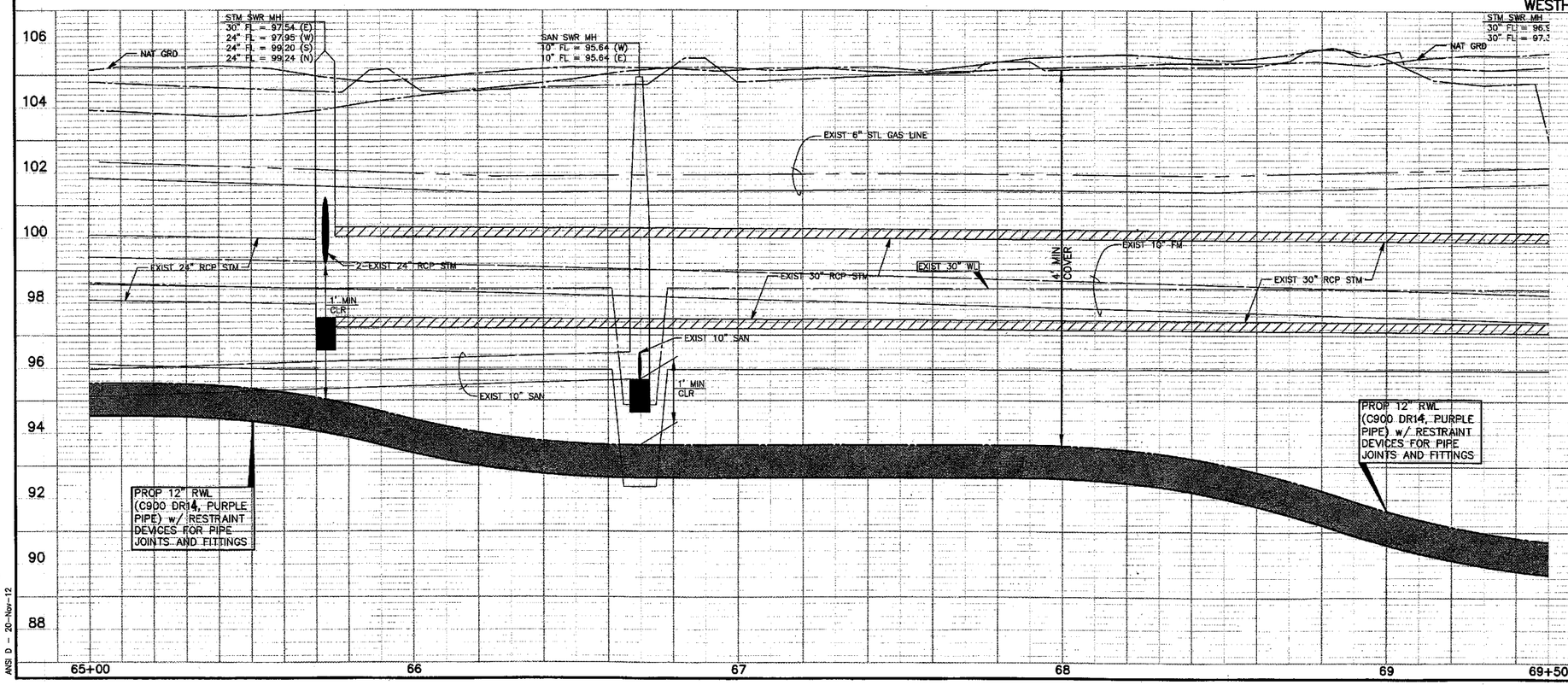
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (60+50 TO 65+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 56 OF 154

PATH/FILENAME: L:\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:07:12 PM
ANSI D - 20-Nov-12





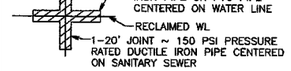
CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-17-13	STORM WATER QUALITY 4-8-14
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 57 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 100, WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/14/13

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (65+00 TO 69+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 57 OF 154

PATH/FILENAME: L:\CINC 69\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, N 20, 2012 8:07:47 PM
ANSI D — 20-Nov-12

WILLOW FORK DRAINAGE DISTRICT

WESTBROOK CINCO EAST LLC

MATCH LINE 69+50 (57)

MATCH LINE 74+00 (59)

20' U.E. 0.475 AC. VOL. 1893, PG. 1352 F.B.C.O.R. H.L. & P. ESMT. VOL. 1991, PG. 2165 F.B.C.O.R.

16' H.L. & P. U.E. VOL. 1991, PG. 2184 F.B.C.O.R.

10' W.L.E. 0.028 AC. CINCO M.U.D. 1 VOL. 1893, PG. 1360 F.B.C.O.R.

SET-BACK AND LANDSCAPE ESMT.

EXIST 24" STM SEW

EXIST 30" STM SEW

EXIST 36" STM SEW

EXIST 16" WWCL

EXIST 10" FM

EXIST 24" WL

EXIST 30" WL

EXIST 20" WL

EXIST CONC S/W

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

6' BRICK FENCE

12" SAN SEW FM

EXIST 10'x6' RCB BOX STM SEW

5'(TYP)

73+50, RT 8.6' CONNECT TO EXIST WATER METER #4166694*

73+50, RT 6.1' PVB#K001 (TO BE REMOVED)*

73+50, RT 9.3' 1½" SERVICE TAP*

PROP 12" RWL

PROP 1½" RWL

CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

WESTHEIMER PARKWAY - FORT BEND

STM SWR MH
36" FL = 96.35 (W)
36" FL = 96.60 (E)
24" FL = 97.15 (N)

STM SWR MH
36" FL = 96.85 (W)
36" FL = 96.85 (E)
24" FL = 99.35 (S)
24" FL = 99.45 (N)

NAT GRD

EXIST 6" STL GAS LINE

4' MIN COVER

2-EXIST 24" RCP STM

EXIST 36" RCP STM

EXIST 30" RCP STM

EXIST 10" FM

1' MIN CLR

2' MIN CLR

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

106 104 102 100 98 96 94 92 90 88

69+50 70+00 71 72 73 74

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

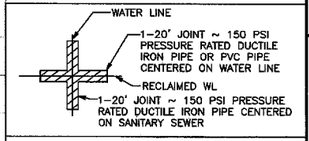
PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	Javad Azad 4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 58 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2101 CITYWEST, SUITE 101 WEST
HOUSTON, TEXAS 77042-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (69+50 TO 74+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 58 OF 154

PATH/FILENAME: L:\CINC...\9\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, No... 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, No... 20, 2012 8:08:20 PM
ANSI D - 20-Nov-12

MATCH LINE 74+00 (58)

MATCH LINE 78+50 (60)

12" SAN SEW FM

6' BRICK FENCE

EXIST CONC S/W

EXIST 16" WWCL

EXIST 10" FM

SET-BACK AND LANDSCAPE ESMT.

EXIST CONC PAVEMENT W/ CONC. CURB & GUTTER

74+50, RT 9.5'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

75+50, RT 9.0'
1-12" GV & BOX

PROP 12" RWL

PT: 74+92.33

5'(TYP)

75+56, RT 8.5'
1-12" x 22.5' BEND

76+24, LT 10.5'
1-12" x 22.5' BENDS

77+43, RT 86.5'
PVB#K052 (TO BE REMOVED)*

77+63, LT 10.4'
1½" SERVICE TAP*

PROP 1½" RWL*

77+67, RT 48.4'
CONNECT TO EXIST WATER METER #31953917*

100' R.O.W.

EXIST 20" WL

EXIST 8" WL

EXIST 24" STM SEW

EXIST 36" STM SEW

10' W.L.E. 0.681 AC. CINCO M.U.D. 1 VOL. 1893, PG. 1405 F.B.C.O.R.

CANYON LINKS DRIVE

WESTHEIMER PARKWAY - FORT BEND

STM SWR MH
36" FL = 96.98 (W)
36" FL = 96.38 (E)

STM SWR MH
36" FL = 97.59 (W)
24" FL = 97.75 (S)
24" FL = 98.49 (N)
30" FL 97.59 (S)

NAT GRD

EXIST 6" STL GAS LINE

EXIST 10" FM

EXIST 36" RCP STM

EXIST 16" WWCL

EXIST 20" WL

EXIST 24" RCP STM

EXIST 30" RCP STM

EXIST 8" WL

4' MIN COVER

1' MIN CLR

2' MIN CLR

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

106 104 102 100 98 96 94 92 90 88

74 75+00 76 77 78 78+50

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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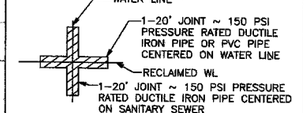
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL. (6)

CL CURVE DATA
PC= 48+68.55
Δ= 50°06'40"
R= 2999.96'
L= 2623.78'
PT= 74+92.33

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 59 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

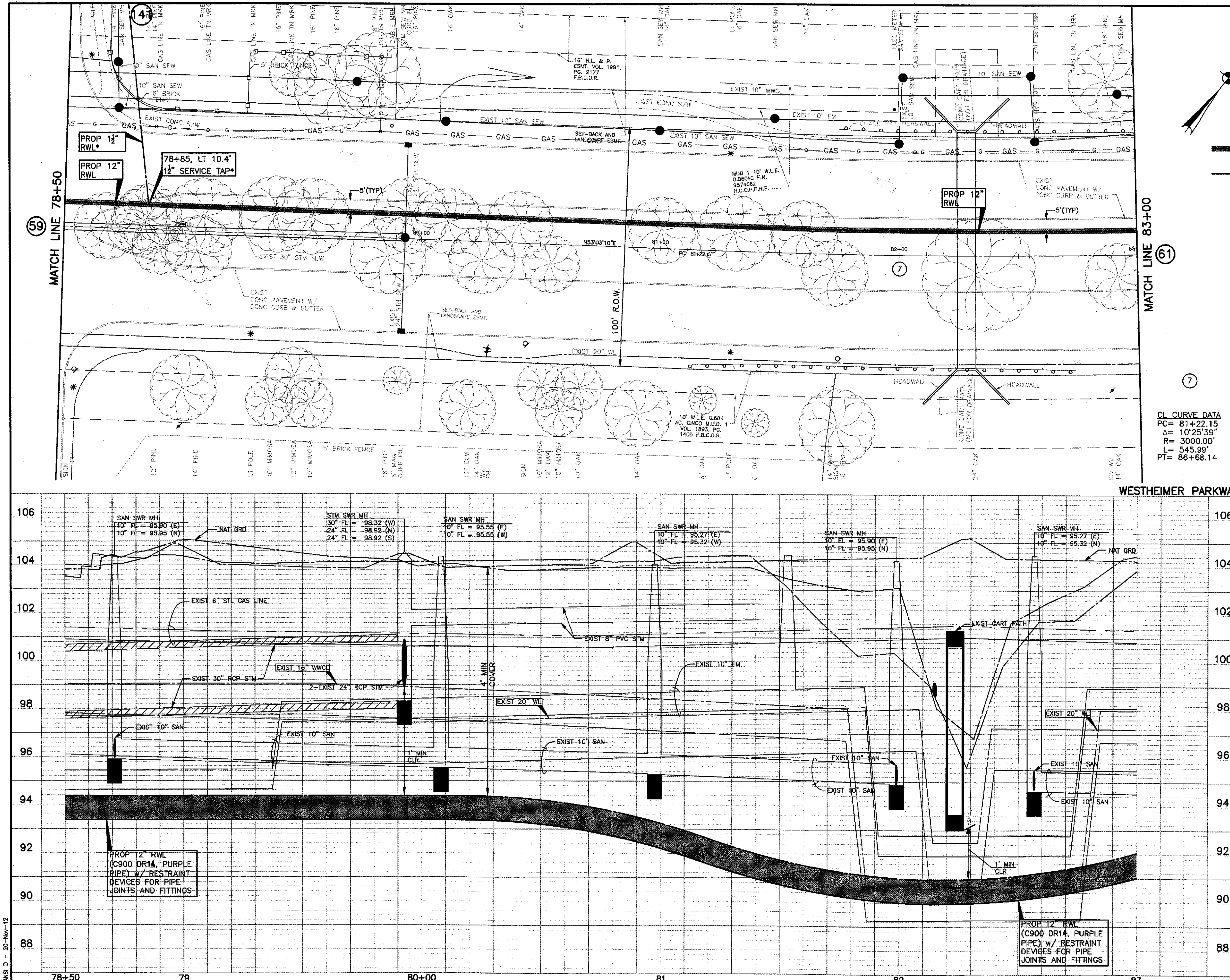
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (74+00 TO 78+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 59 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, No... 0, 2012 7:30:36 PM
PLOT DATE: Tuesday, No... 2012 8:08:56 PM
ANSI D - 20-Nov-12



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CAUTION:
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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

WESTHEIMER PARKWAY - FORT BEND

NOTE: (1)
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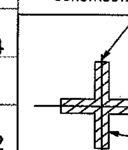

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APPROVED [signature] ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER [signature] 12.13.13	TRAFFIC & TRANSPORTATION
WASTEWATER [signature] 4-8-14	STORM WATER QUALITY
STORM [signature] 4.15.14	FACILITIES [signature] 4-3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 60 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
[signature] 11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (78+50 TO 83+00)

PROJECT NO: 60194669 (WSD)
CAD DWG FILE: P&P-WPKY
DESIGNED BY: DE
DRAWN BY: JE
DEPT CHECK:
PROJ CHECK:
DATE: DECEMBER 2012
SCALE: 1" = 20'

SHEET 60 OF 154

PATH/FILENAME: L:\CINC...9\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ...20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov...20, 2012 8:09:31 PM
ANSI D - 20-Nov-12

MATCH LINE 83+00

MATCH LINE 87+50

PROP 12" RWL

84+63, LT 10.4'
1-12" GV & BOX

85+30, LT 10.5'
12" SERVICE TAP*

PROP 1½" RWL*

PROP 12" RWL

87+17, LT 10.2'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

85+32, RT 5.8'
PVB#K004 (TO BE REMOVED)*

85+32, RT 8.6'
CONNECT TO EXIST WATER METER #42329330*

86+80, LT 10.3'
12" SERVICE TAP*

86+81, RT 89.9'
CONNECT TO EXIST WATER METER #48340500*

EXIST 16" WWCL

EXIST 20" WL

EXIST 12" SAN SEW

EXIST 10" SAN SEW

EXIST 12" WL

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

100' R.O.W.

5'(TYP)

MUD 1 10' W.L.E. 0.060AC F.N. #574662 H.C.O.P.R.R.P.

S.S.E. (WIDTH VARIES) CINCO M.U.D. 1 0.677 AC. VOL. 1893, PG. 1421 F.B.C.O.R. F.N. K833812 F.C. 061-74-0624 H.C.O.P.R.R.P.

10' W.L.E. 0.681 AC. CINCO M.U.D. 1 VOL. 1893, PG. 1405 F.B.C.O.R.

GAS LINE TIE MARK

GAS LINE TIE MARK

CURB INLET STM SEW MH

SAN SEW MH

6' BRICK FENCE

KELLWOOD CIRCLE

PT: 86+68.14

N42°37'30"E

CL CURVE DATA
PC= 81+22.15
Δ= 10°25'39"
R= 3000.00'
L= 545.99'
PT= 86+68.14

WESTHEIMER PARKWAY - FORT BEND

STM SWR MH
24" FL = 98.81 (E)
24" FL = 98.91 (W)
24" FL = 98.91 (S)

SAN SWR MH
12" FL = 93.70 (E)
10" FL = 93.75 (W)
12" FL = 95.89 (S)

STM SWR MH
24" FL = 98.60 (E)
24" FL = 98.60 (W)
24" FL = 98.90 (S)

NAT GRD

EXIST 6" STL GAS LINE

2-EXIST 24" RCP STM

EXIST 10" FM

4' MIN COVER

MIN CLR

EXIST 24" RCP STM

EXIST 24" RCP STM

2' MIN CLR

EXIST 12" SAN

EXIST 10' SAN

EXIST 12" SAN

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

106 104 102 100 98 96 94 92 90 88

83 84 85+00 86 87 87+50

CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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(7)

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.

WATER LINE
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE OR PVC PIPE CENTERED ON WATER LINE
RECLAIMED WL
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE CENTERED ON SANITARY SEWER

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION*
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jamal Azad 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 61 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2500 TANGLEWILDE, SUITE 101 WEST
HOUSTON, TEXAS 77063-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/14/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

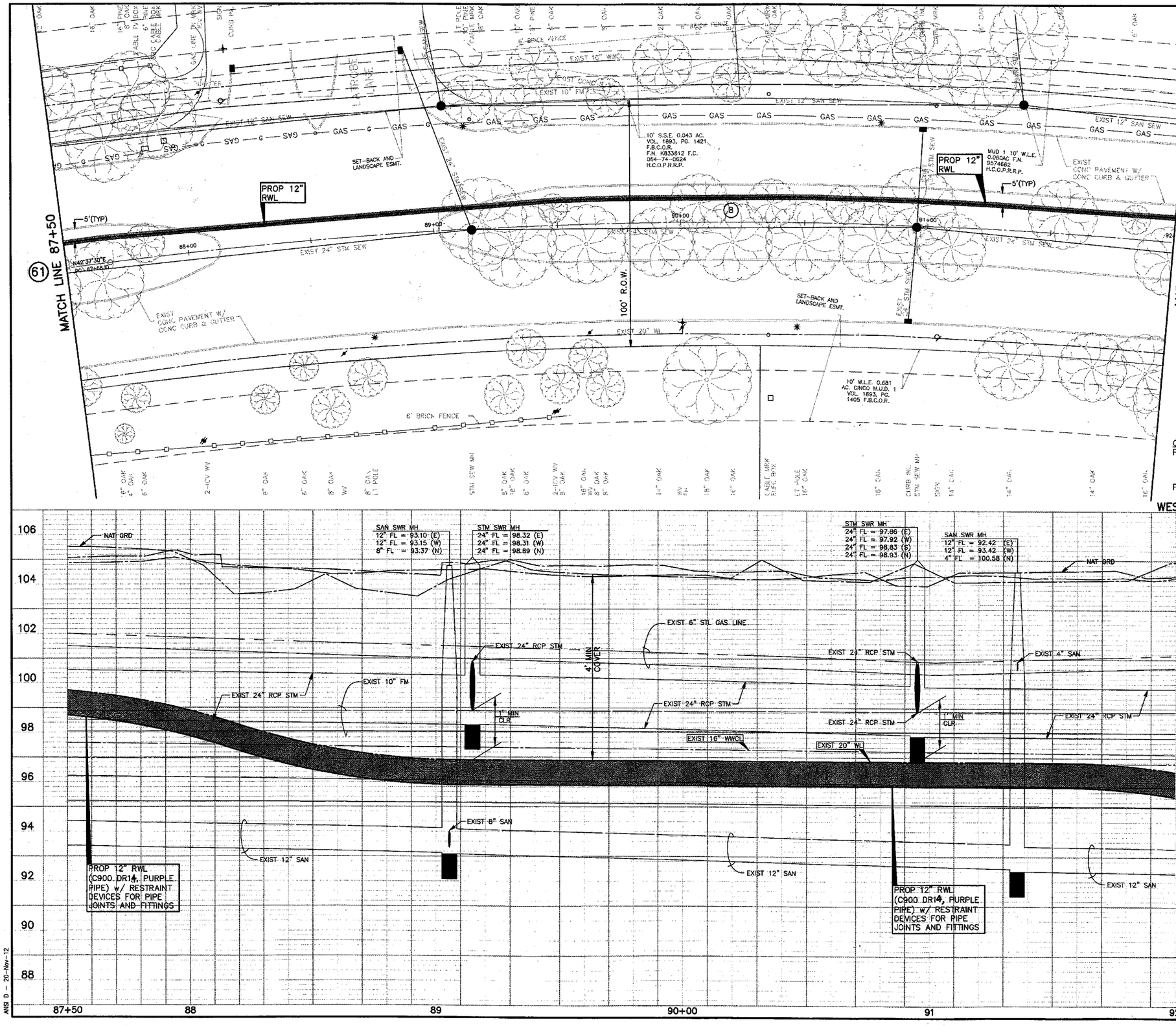
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (83+00 TO 87+50)

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 61 OF 154

PATH/FILENAME: L:\CINCO_20\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, November 20, 2012 8:10:07 PM
ANSI D - 20-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER - FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

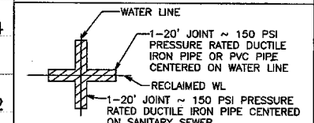
DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

(8)

CL CURVE DATA
PC= 87+68.10
Δ= 31°22'18"
R= 2000.00'
L= 1095.08'
PCC= 98+63.18

WESTHEIMER PARKWAY - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 62 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

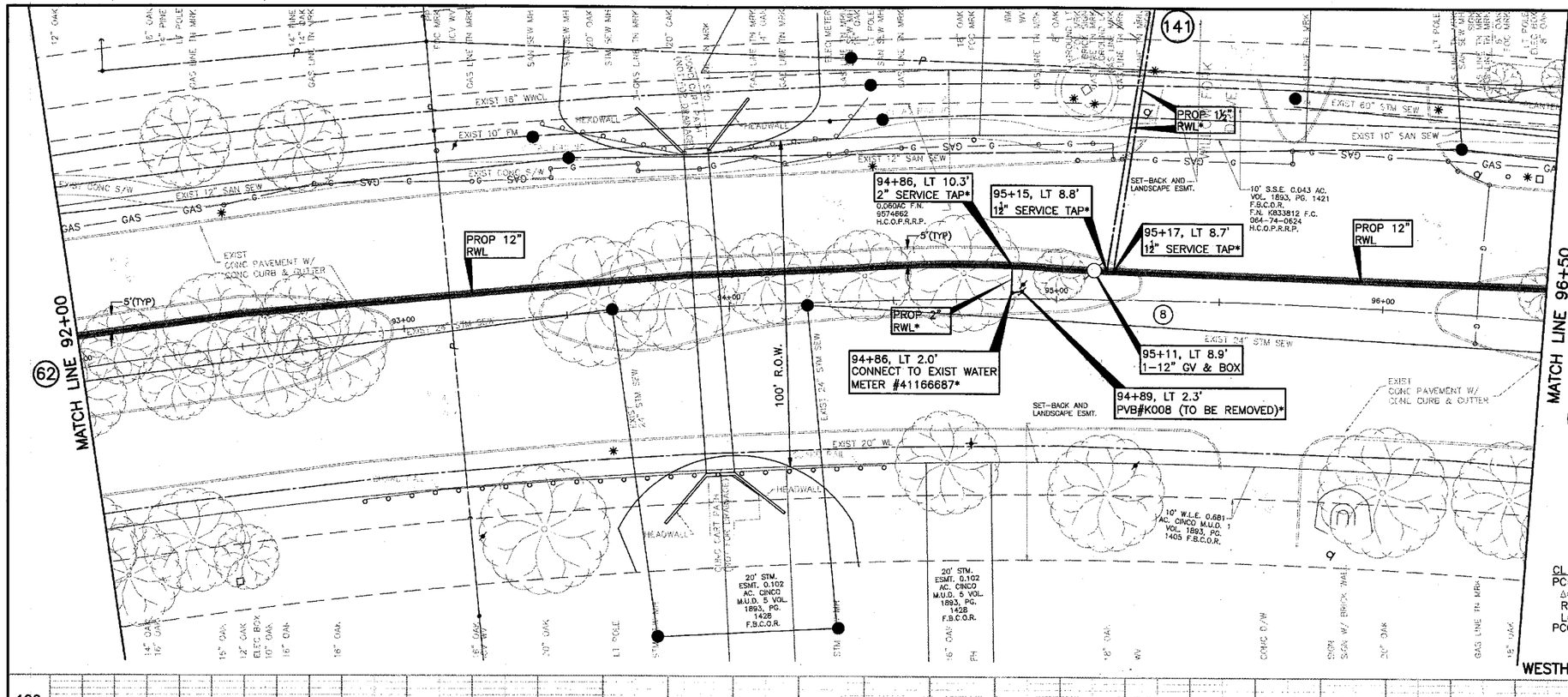
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (87+50 TO 92+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 62 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ...20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov...20, 2012 8:10:42 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

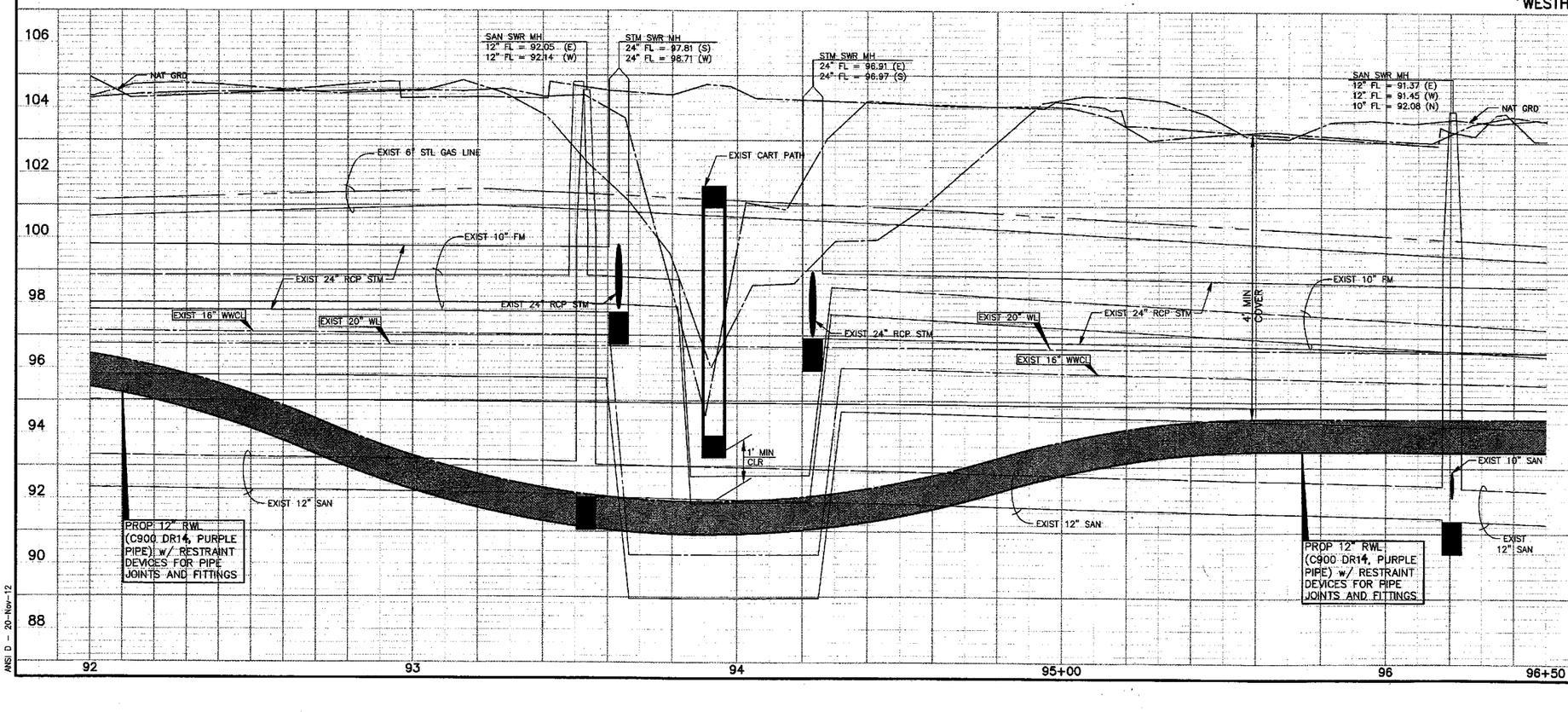
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

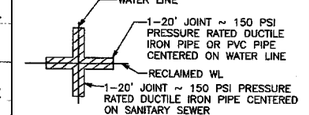
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.
(8)

CL CURVE DATA
PC= 87+68.10
Δ= 31°22'18"
R= 2000.00'
L= 1095.08'
PCC= 98+63.18

WESTHEIMER PARKWAY - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT FORT BEND COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jawad Ansk 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 63 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

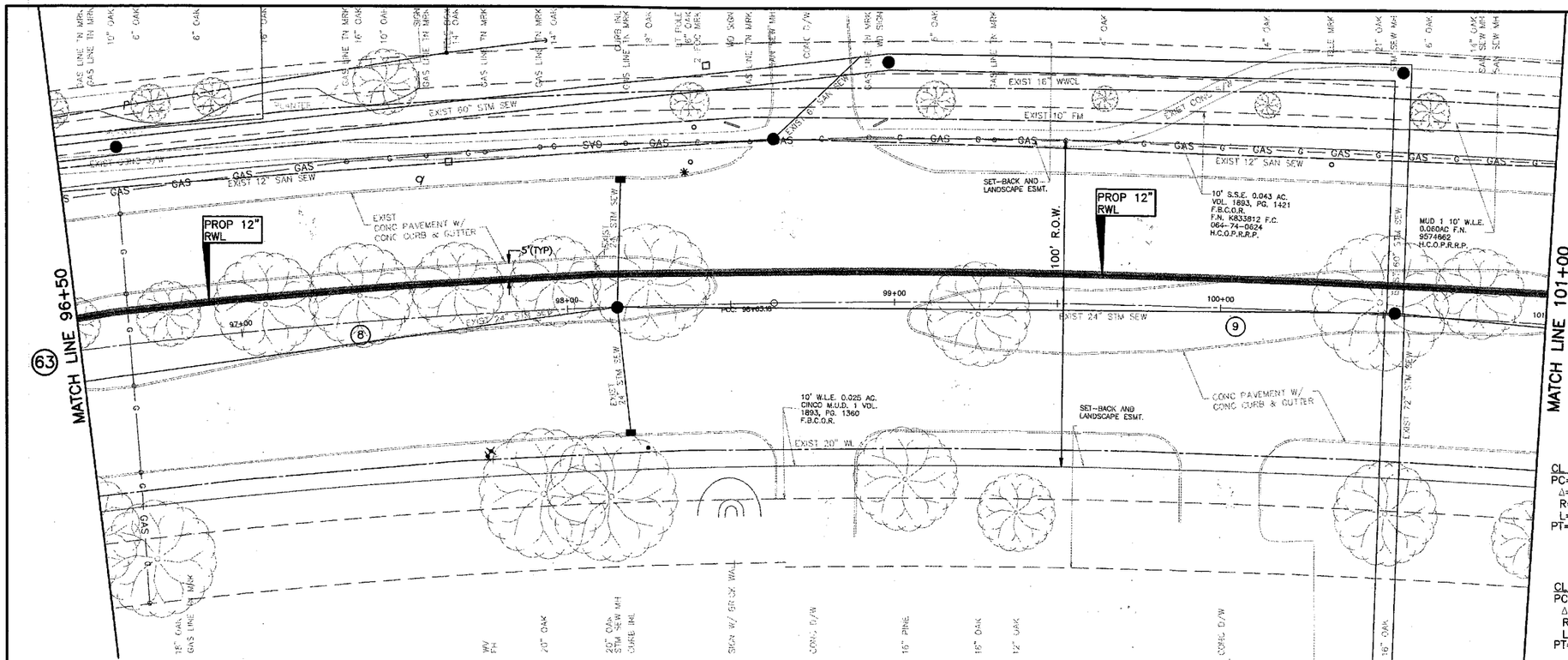
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (92+00 TO 96+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 63 OF 154

PATH/FILENAME: L:\CIVIL\...\91\DWGS\P&P-WPKY.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, November 20, 2012 8:11:18 PM
ANSI D - 20-Nov-12



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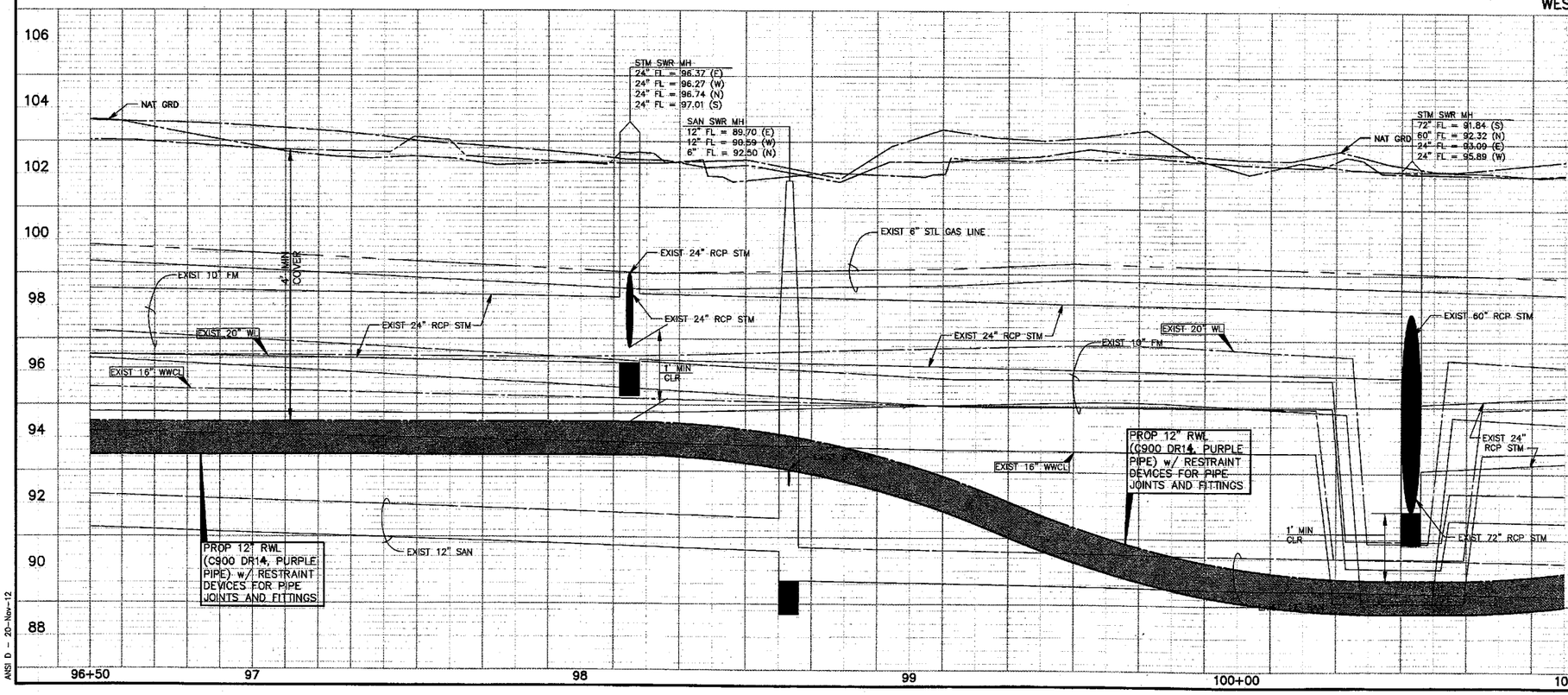
(8)

CL CURVE DATA
PC= 87+68.10
Δ= 31°22'18"
R= 2000.00'
L= 1095.08'
PT= 98+63.18

(9)

CL CURVE DATA
PC= 98+63.18
Δ= 29°45'54"
R= 3000.01'
L= 1558.49'
PT= 114+21.67

WESTHEIMER PARKWAY - FORT BEND



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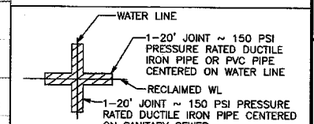

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-18-13 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 64 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

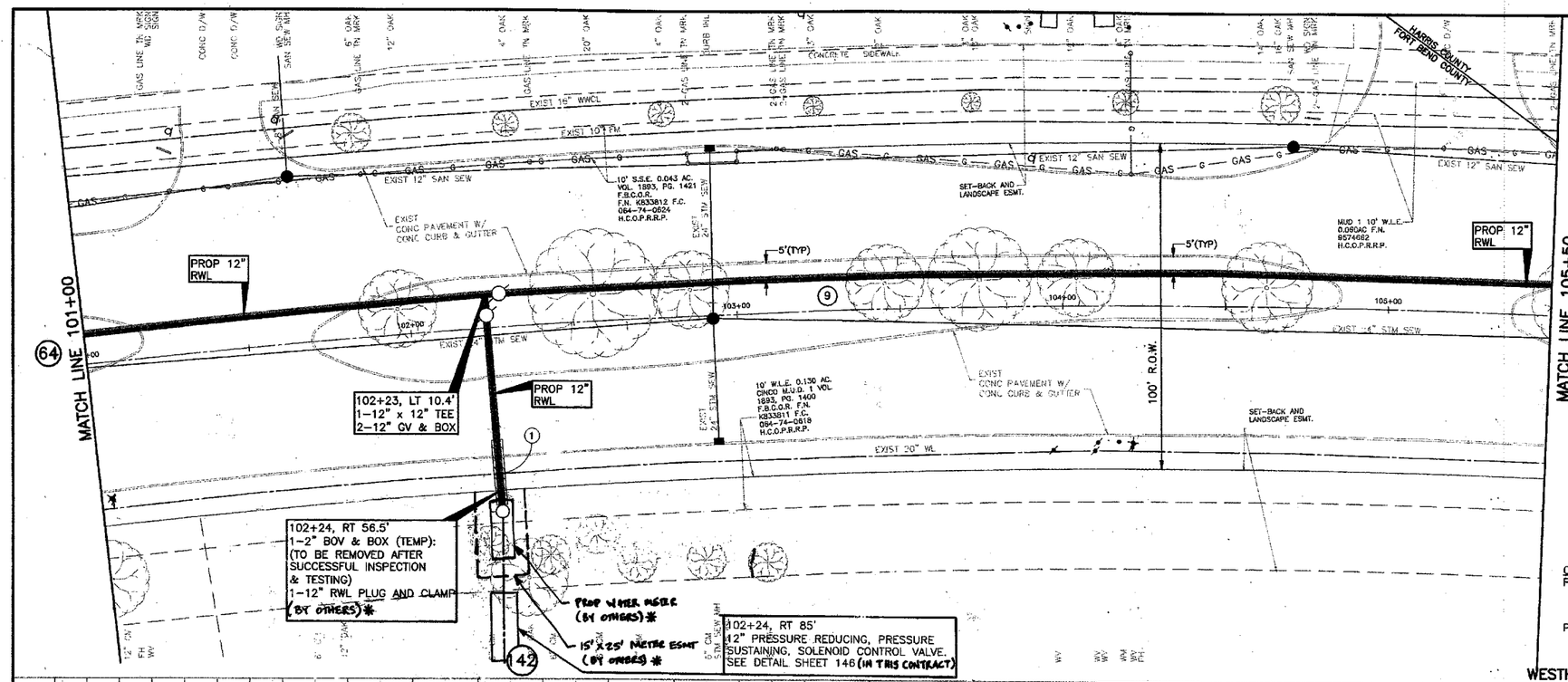
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

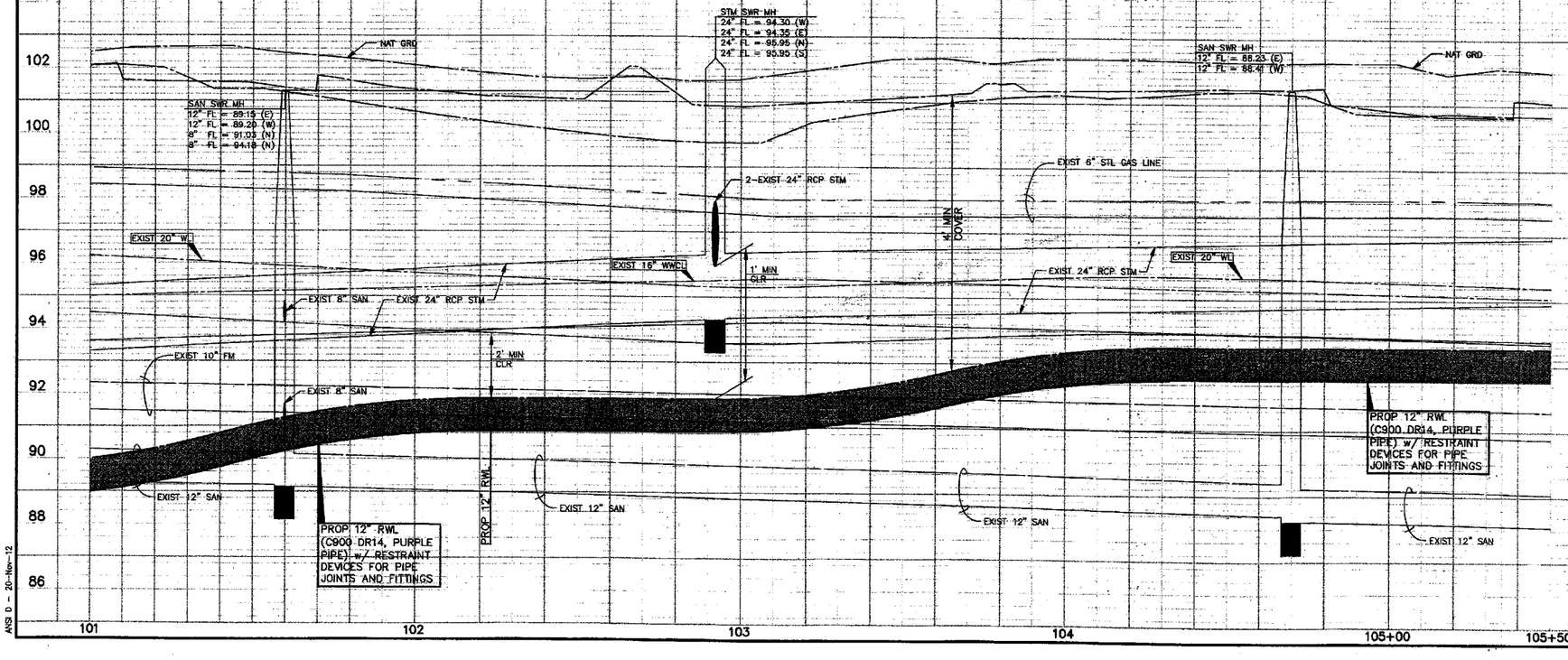
CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (96+50 TO 101+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 64 OF 154

PATH/FILENAME: L:\CINCO_DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:11:53 PM
ANSI D - 20-Nov-12





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CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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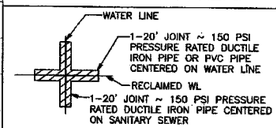
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.
(9)

CL CURVE DATA
PCC= 98+63.18
Δ= 29°45'54"
R= 3000.01'
L= 1558.49'
PT= 114+21.67

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 9/4/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 65 OF 154

52149 — DRAWING REGISTERED

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
3757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77056-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

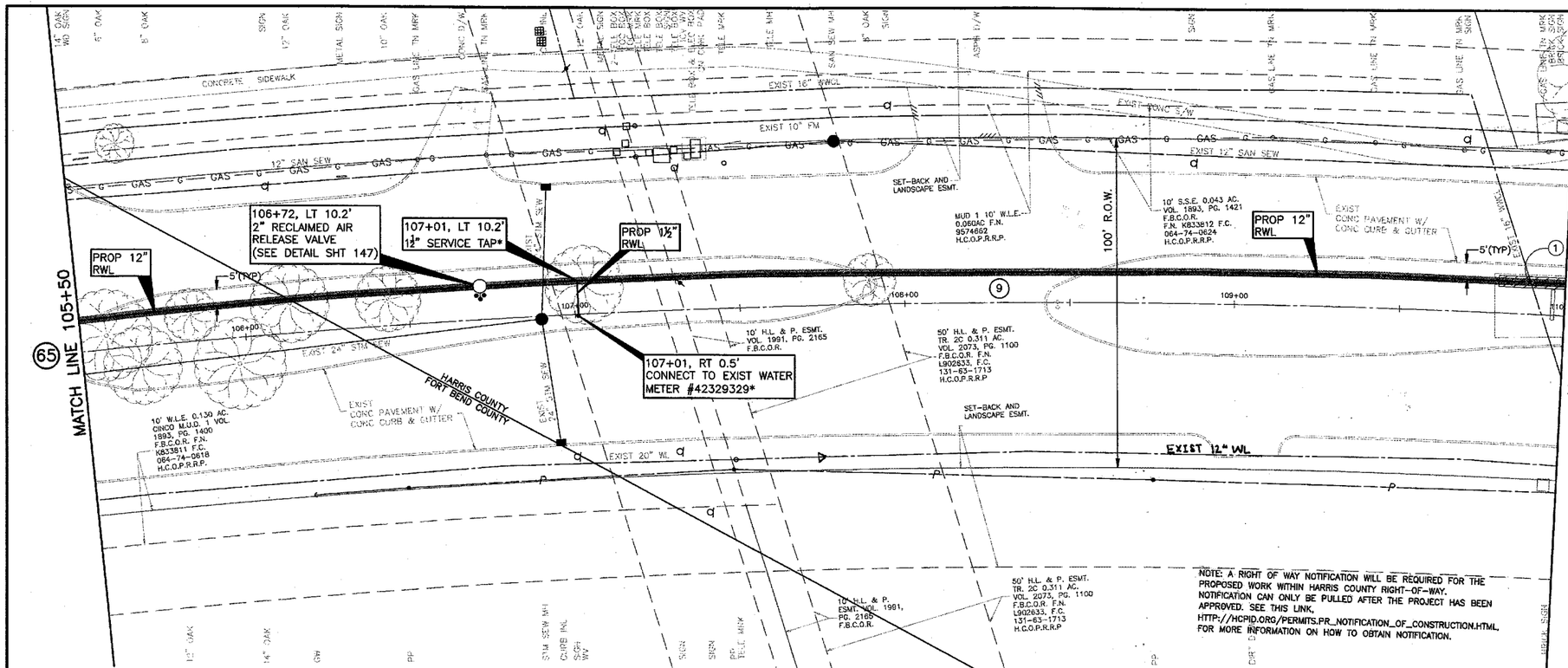
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (101+00 TO 105+50)

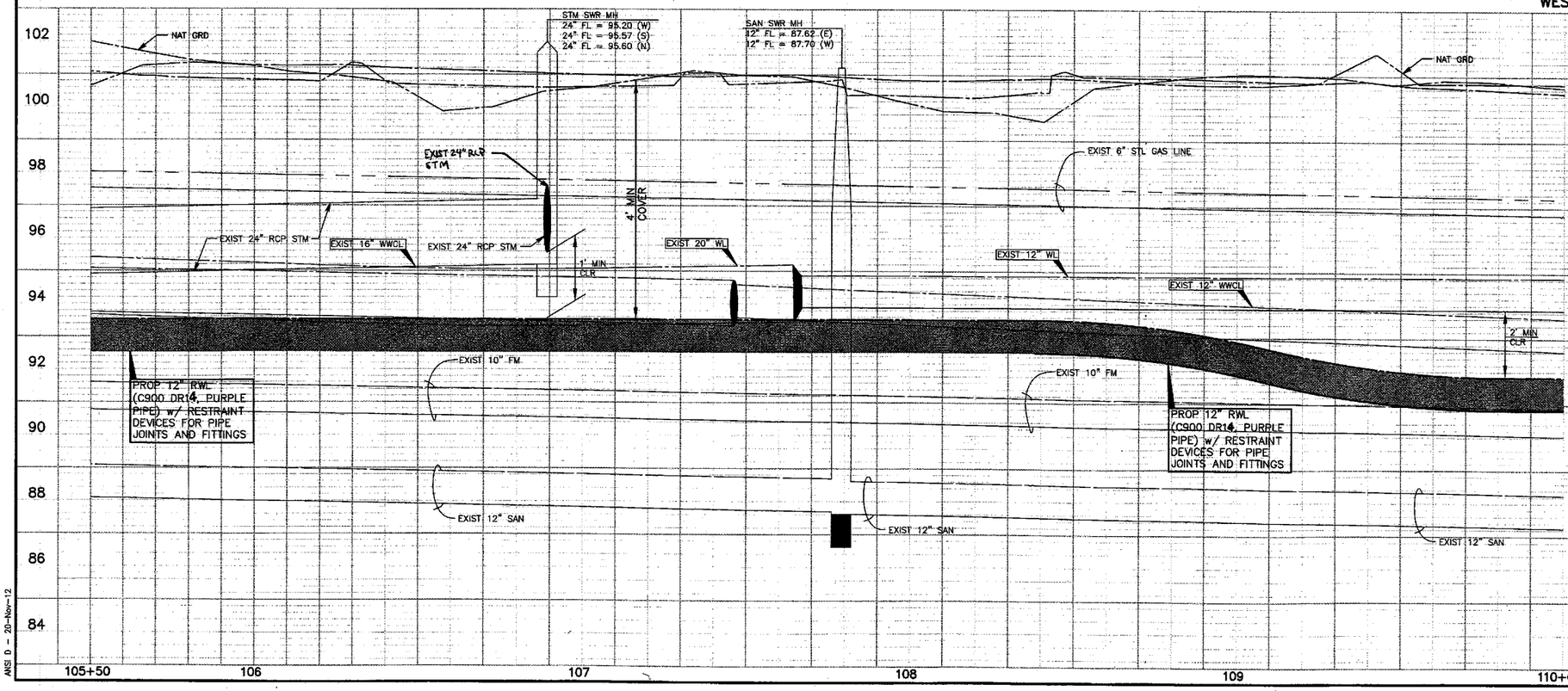
PROJECT NO:	60194669 (MSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 65 OF 154

PATH/FILENAME: L:\CINCO\60194669\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, November 20, 2012 8:12:59 PM
ANSI D - 20-Nov-12



WESTHEIMER PARKWAY - HARRIS



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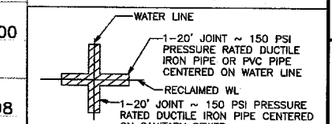

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	4-17-14	TRAFFIC & TRANSPORTATION
WASTEWATER	4-8-14	STORM WATER QUALITY
STORM	4.15.14	FACILITIES 4.3.14
STREET & BRIDGE		

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 66 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

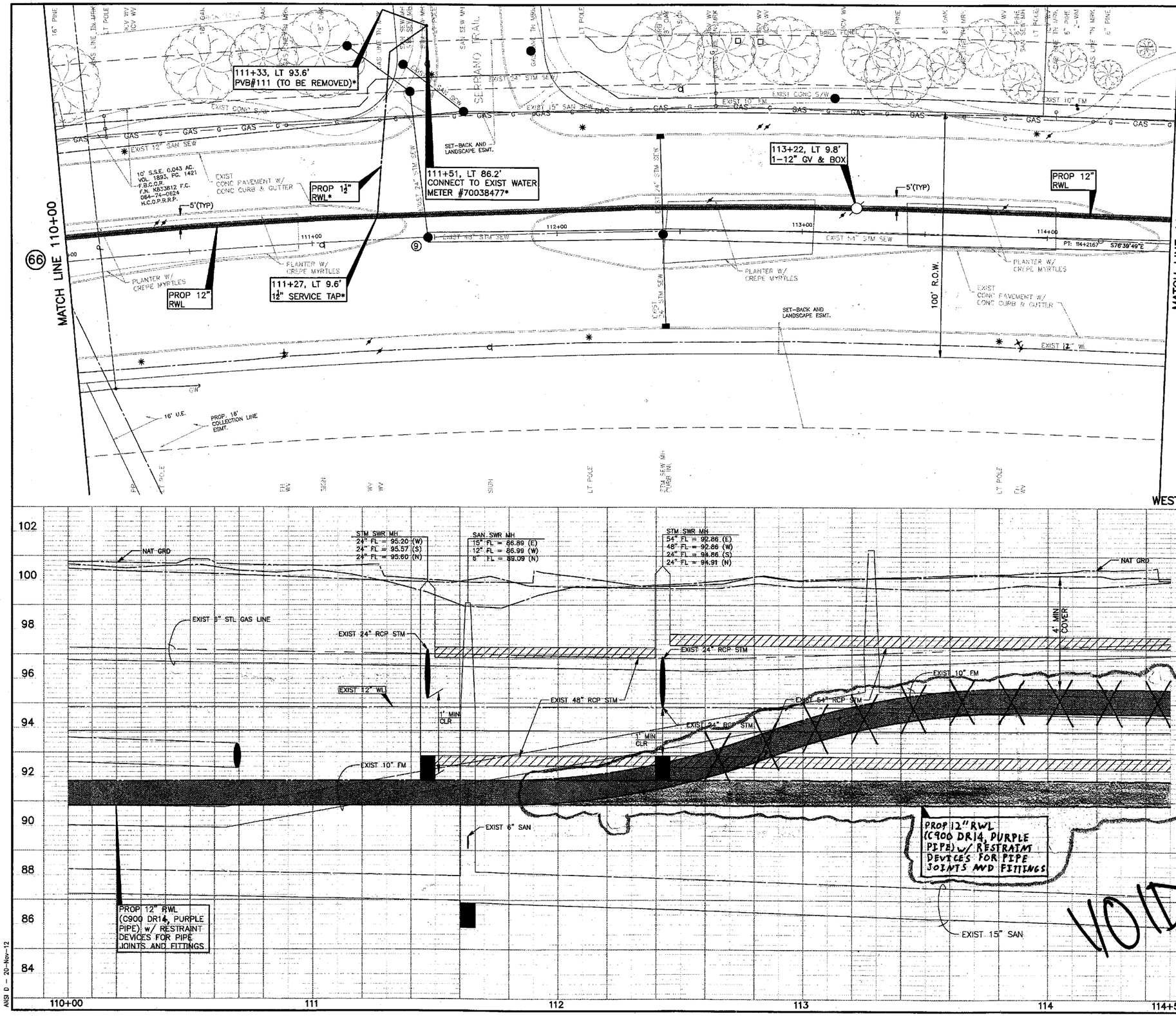
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (105+50 TO 110+00)
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 66 OF 154

PATH/FILENAME: L:\CINC...\9\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ...20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov...20, 2012 8:13:05 PM
ANSI D - 20-Nov-12



CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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⑨

CL CURVE DATA
PCC= 98+63.18
Δ= 29°45'54"
R= 3000.01'
L= 1558.49'
PT= 114+21.67

WESTHEIMER PARKWAY - HARRIS

NOTE: ①
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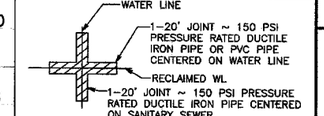

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APPROVED: ASSISTANT TO THE COUNTY ENGINEER
DATE: 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	10/16/14	TRAFFIC & TRANSPORTATION	
WASTEWATER	4-8-14	STORM WATER QUALITY	
STORM	4.15.14	FACILITIES	10.16.14 / 4.3.14
STREET & BRIDGE			

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 67 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

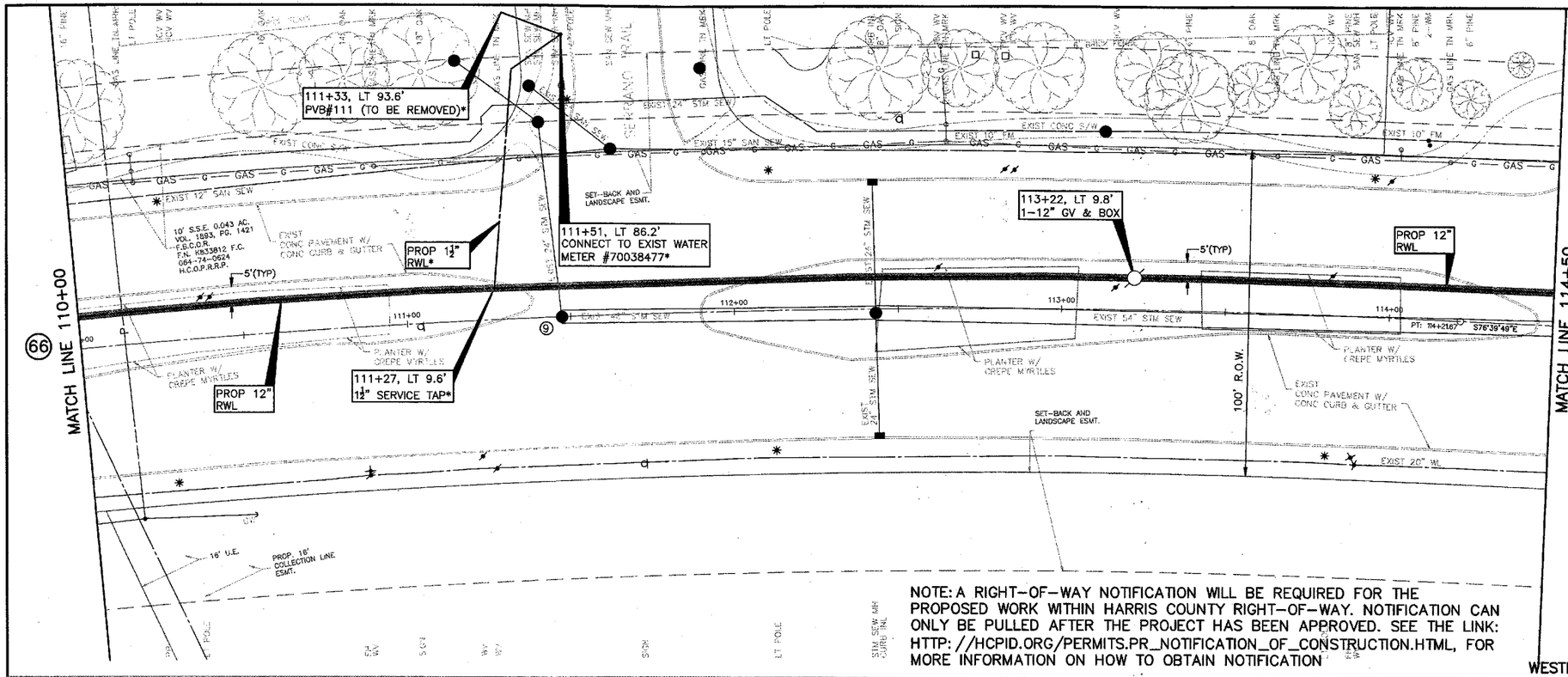
CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (110+00 TO 114+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 67 OF 154

ADDENDUM NO. 1 - 12/29

PATH/FILENAME: L:\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:30:35 PM
PLOT DATE: Tuesday, November 20, 2012 8:13:40 PM
ANSI D - 20-Nov-12



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LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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Δ= 29°45'54"
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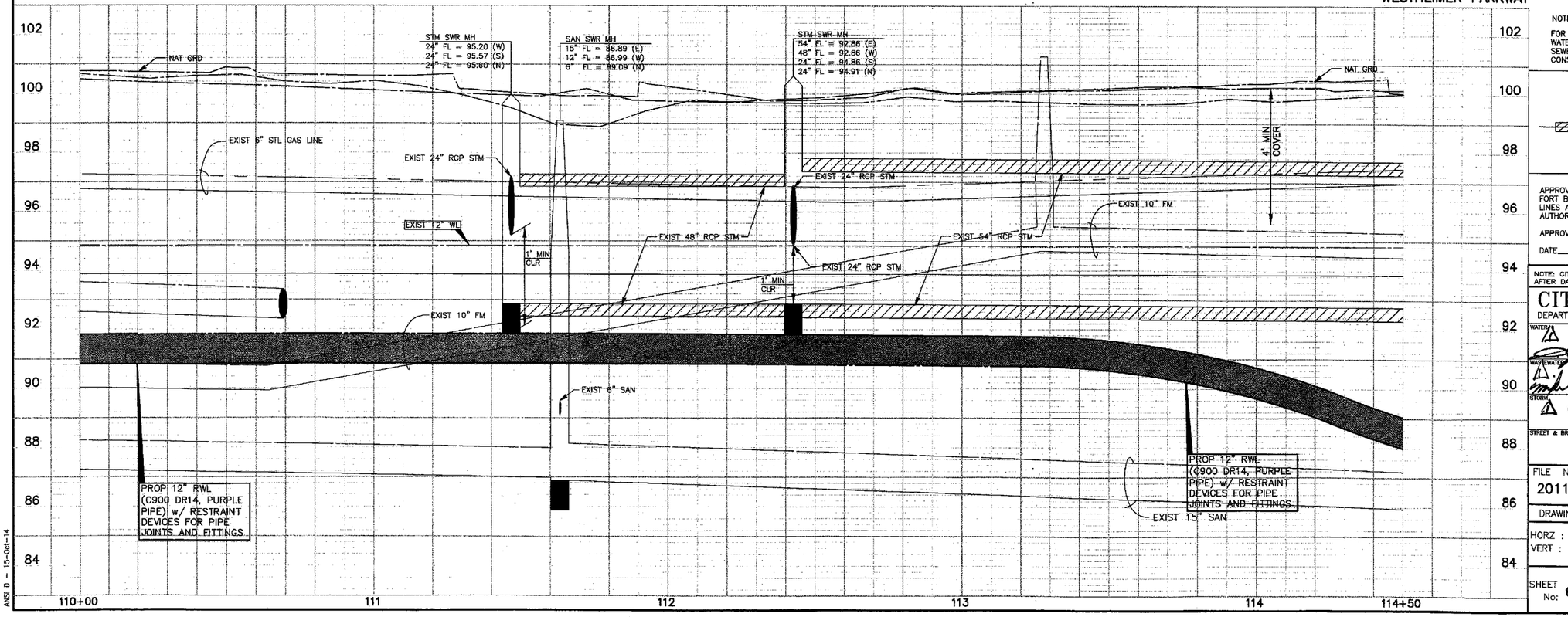
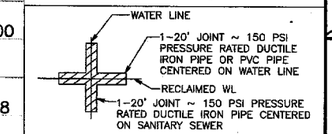


NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED_____ ASSISTANT TO THE COUNTY ENGINEER

DATE_____

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 67 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
4	10/16/14	GD	JH	Revised R/W

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

10/16/14
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (110+00 TO 114+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 67A OF 154

PATH/FILENAME: P:_DESIGN\60194669 - CINCO MUD 1 REUSE\DWG\P&P-WPKY.DWG
LAST UPDATE: Wednesday, October 15, 2014 5:02:59 PM
PLOT DATE: Thursday, October 16, 2014 7:57:46 AM
ANSI D - 15-Oct-14

MATCH LINE 114+50 (67)

MATCH LINE 119+00 (69)

WESTHEIMER PARKWAY - HARRIS

PROP 12" RWL

100' R.O.W.

EXIST 10" FM

EXIST 15" SAN SEW

EXIST 8" SAN SEW

EXIST 18" SAN SEW

116+62, LT 10.1'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

10' S.S.E. 0.315 AC. CINCO M.U.D. 1 VOL. 1893, PG. 1294 F.B.C.O.R. F.N. K833817 F.C. 064-74-0860 H.C.O.P.R.R.P.

SET-BACK AND LANDSCAPE ESMT.

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

5'(TYP)

PROP 12" RWL

EXIST 24" STM SEW

EXIST 60" STM SEW

S76°39'49"E

PLANTER W/ CREPE MYRTLES

EXIST 20" WL

EXIST 24" STM SEW

STM SWR MH
60" FL = 92.31 (E)
24" FL = 92.61 (S)
54" FL = 92.71 (W)

SAN SWR MH
18" FL = 85.53 (E)
15" FL = 85.62 (W)
6" FL = 89.73 (S)
6" FL = 92.74 (N)

STM SWR MH
60" FL = 92.10 (E)
60" FL = 92.10 (W)

STM SWR MH
60" FL = 91.48 (E)
60" FL = 91.63 (W)
24" FL = 94.18 (N)
24" FL = 94.18 (S)

STM SWR MH
60" FL = 91.50 (E)
60" FL = 91.50 (W)
24" FL = 93.43 (N)

NAT GRD

4' MIN COVER

EXIST 6" STL GAS LINE

EXIST 12" WL

EXIST 6" SAN

EXIST 60" RCP STM

2-EXIST 24" RCP STM

EXIST 24" RCP STM

EXIST 10" FM

EXIST 60" RCP STM

1' MIN CLR

2' MIN CLR

EXIST 6" SAN

EXIST 15" SAN

EXIST 18" SAN

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

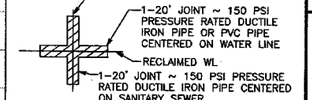
PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

VOID

102 100 98 96 94 92 90 88 86 84

114+50 115+00 116 117 118 119

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 68 OF 154

52149
DRAWING NUMBER

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
1	10/16/14	DE		REVISED 12" RWL AS PER NEW ALIGNMENT

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/14

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
WESTHEIMER PARKWAY (114+50 TO 119+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 68 OF 154

ADDENDUM NO. 1 - 23/29

PATH/FILENAME: L:\CINC...\DWG\P&P-WPKY.DWG
LAST UPDATE: Tuesday, ...20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Novem...20, 2012 8:14:13 PM
ANSI D - 20-Nov-12

MATCH LINE 114+50 (67)

MATCH LINE 119+00 (69)

PROP 12" RWL

100' R.O.W.

116+62, LT 10.1'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

10' S.S.E. 0.315 AC.
CINCO M.U.D. 1 VOL. 1893, PG. 1294
F.B.C.O.R. F.N. K833817 F.C. 064-74-0660
H.C.O.P.R.R.P.

SET-BACK AND LANDSCAPE ESMT.

EXIST COND PAVEMENT W/ CONC CURB & GUTTER

PLANTER W/ CRAPE MYRTLES

EXIST 20" WL

EXIST 18" SAN SEW

EXIST 10" FM

EXIST 24" STM SEW

EXIST 60" STM SEW

WESTHEIMER PARKWAY

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
4	10/16/14	GD	TH	Moved R.O.W. deeper

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
10/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (114+50 TO 119+00)

STM SWR MH
60" FL = 92.31 (E)
24" FL = 92.61 (S)
54" FL = 92.71 (W)

SAN SWR MH
18" FL = 85.53 (E)
15" FL = 85.62 (W)
6" FL = 89.73 (S)
6" FL = 92.74 (N)

STM SWR MH
60" FL = 92.10 (E)
60" FL = 92.10 (W)

STM SWR MH
60" FL = 91.48 (E)
60" FL = 91.63 (W)
24" FL = 96.18 (N)
24" FL = 96.18 (S)

STM SWR MH
60" FL = 91.50 (E)
60" FL = 91.50 (W)
24" FL = 93.43 (N)

NAT GRD

MIN 4' COVER

EXIST 6" STL GAS LINE

EXIST 12" WL

EXIST 54" RCP STM

EXIST 24" RCP STM

EXIST 60" RCP STM

EXIST 6" SAN

2' MIN CLR

EXIST 15" SAN

EXIST 18" SAN

EXIST 10" FM

2-EXIST 24" RCP STM

1' MIN CLR

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 12" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE

102 100 98 96 94 92 90 88 86 84

114+50 115+00 116 117 118 119

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.

WATER LINE
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE OR PVC PIPE CENTERED ON WATER LINE
RECLAIMED WL
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE CENTERED ON SANITARY SEWER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED_____
ASSISTANT TO THE COUNTY ENGINEER

DATE_____

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY? AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
STORM — FACILITIES
STREET & BRIDGE

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

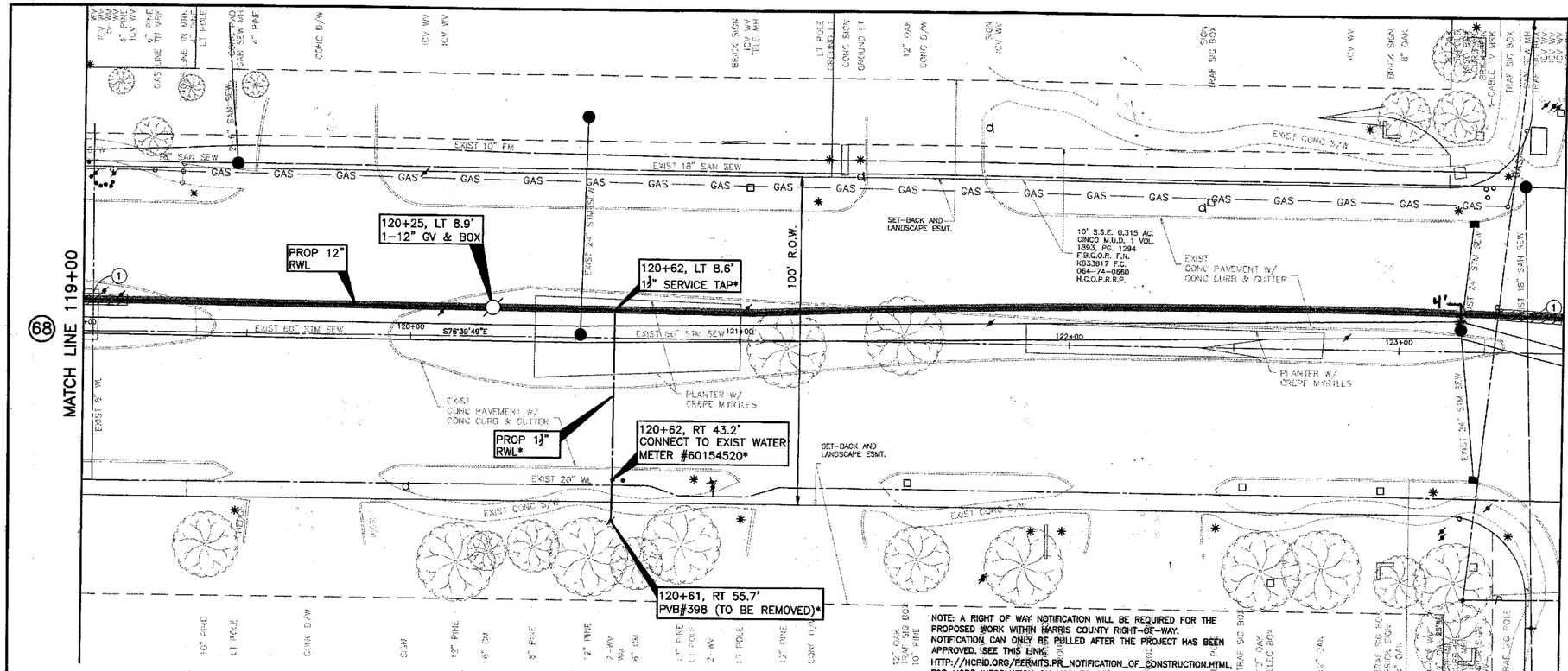
SHEET No: 68 OF 154

ACCEPTED FILED
PUBLIC WORKS & ENGINEERING
52149
CITY DRAWING NUMBER

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 68A OF 154

PATH/FILENAME: P:_105_194689 - CINCO MUD 1 REUSE\DWG\P&P-WPKY.DWG
LAST UPDATE: Wednesday, October 15, 2014 5:02:59 PM
PLOT DATE: Thursday, October 16, 2014 7:58:20 AM
ANSI D - 15-Oct-14



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CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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NOTE:
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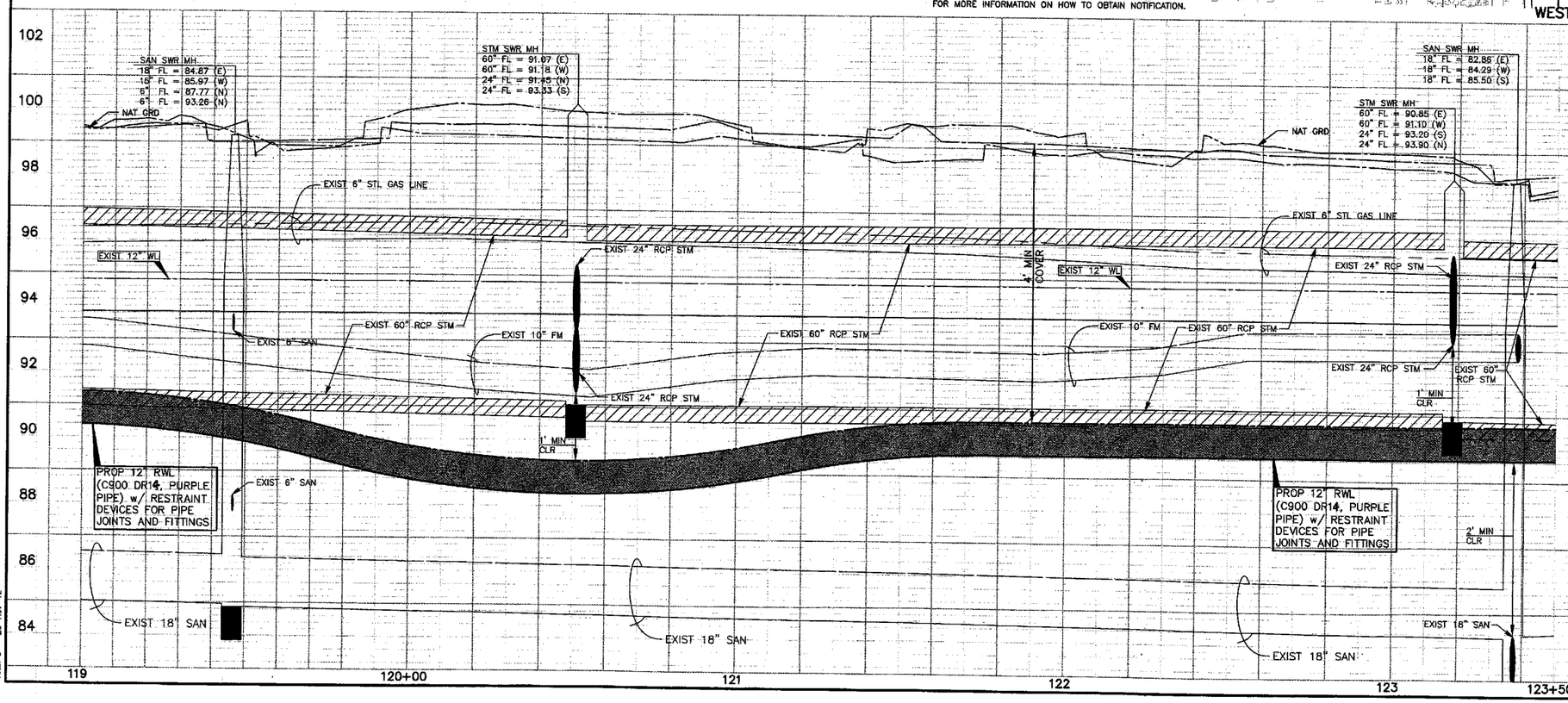
WESTHEIMER PARKWAY - HARRIS



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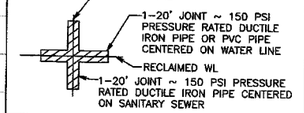

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-12-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4-15-14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 69 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO.: F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
12-20-12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

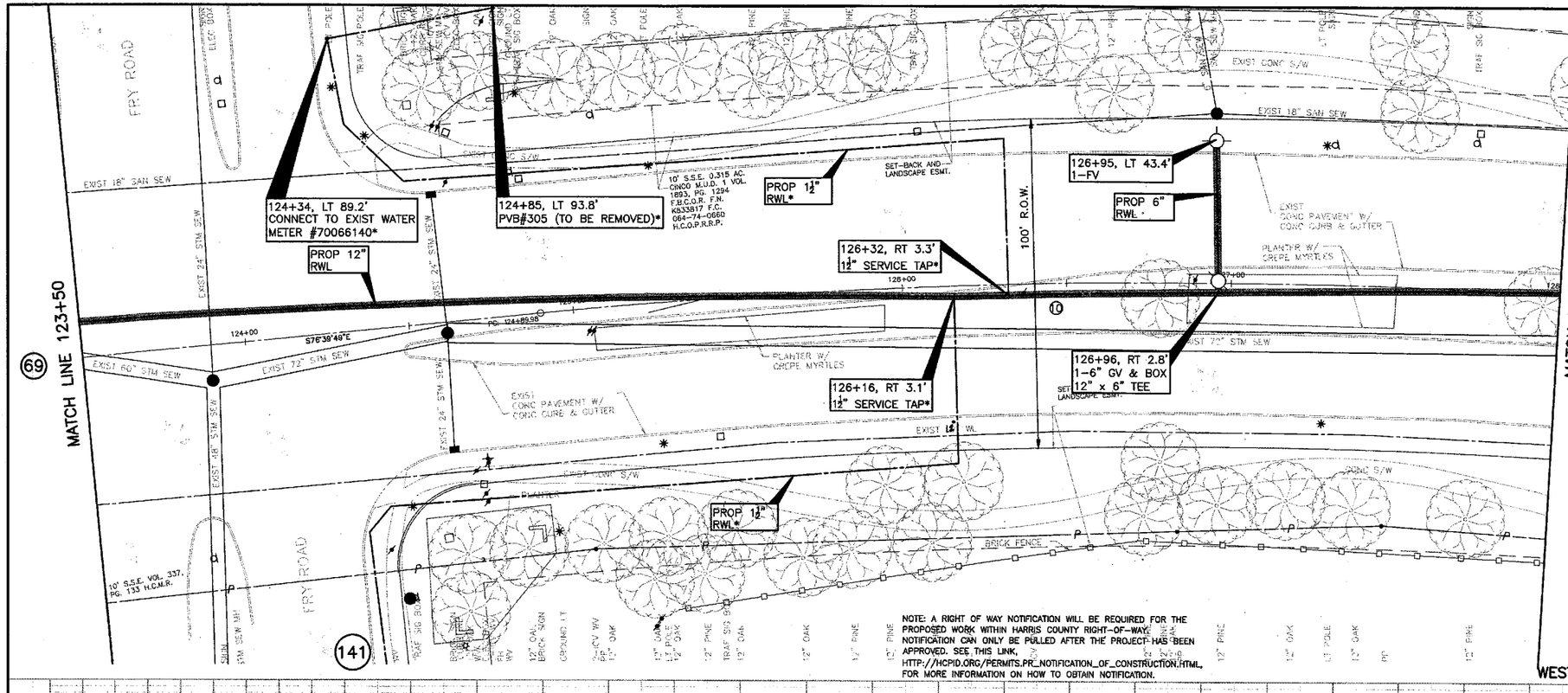
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (119+00 TO 123+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 69 OF 154

PATH/FILENAME: L:\CIVIL\PROJECTS\60194669\CAD\P&P-WPKY.DWG
LAST UPDATE: Tuesday, DEC. 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, NOV. 20, 2012 8:14:49 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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NOTE:

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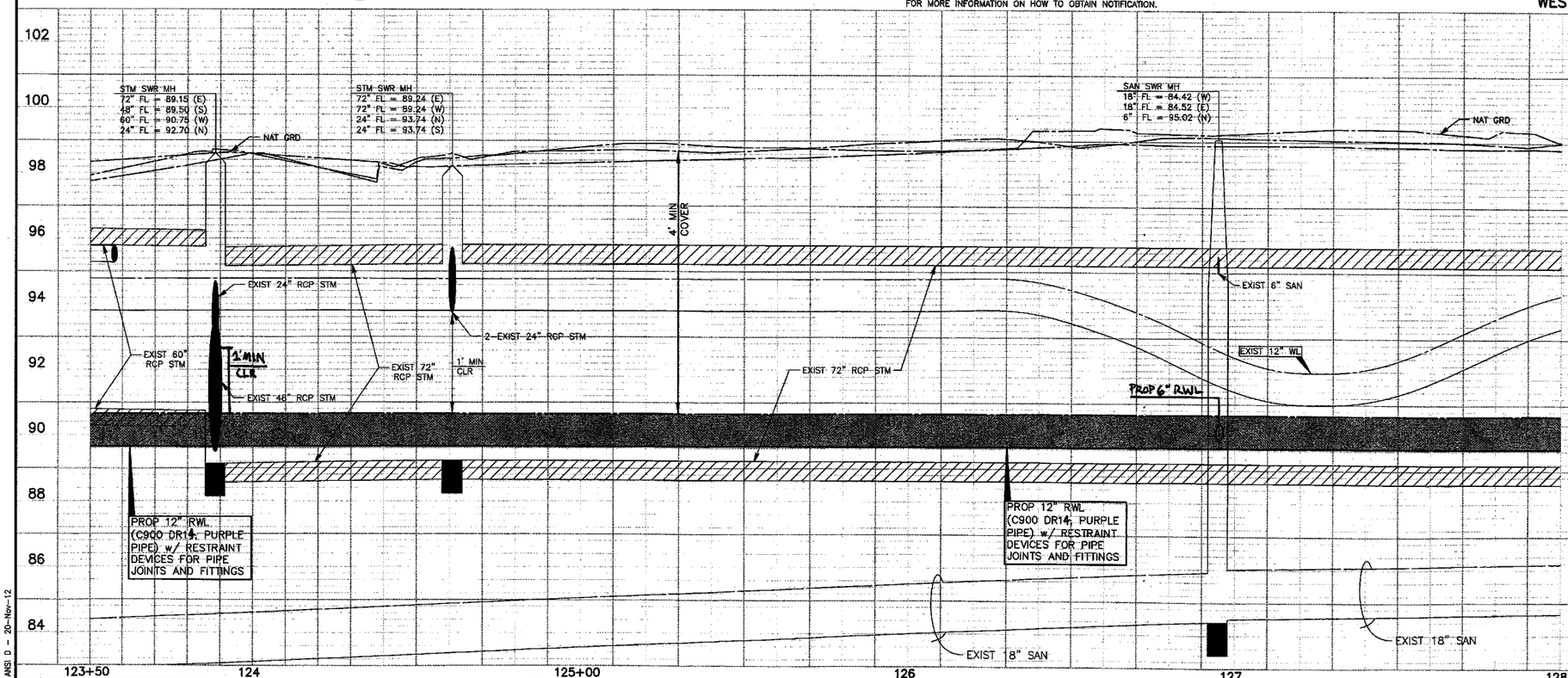
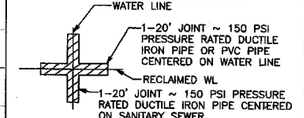
CL CURVE DATA
PC= 124+89.98
Δ= 10°23'12"
R= 1998.39'
L= 362.27'
PT= 128+52.26

WESTHEIMER PARKWAY - HARRIS



NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jawad Hasib 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 70 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

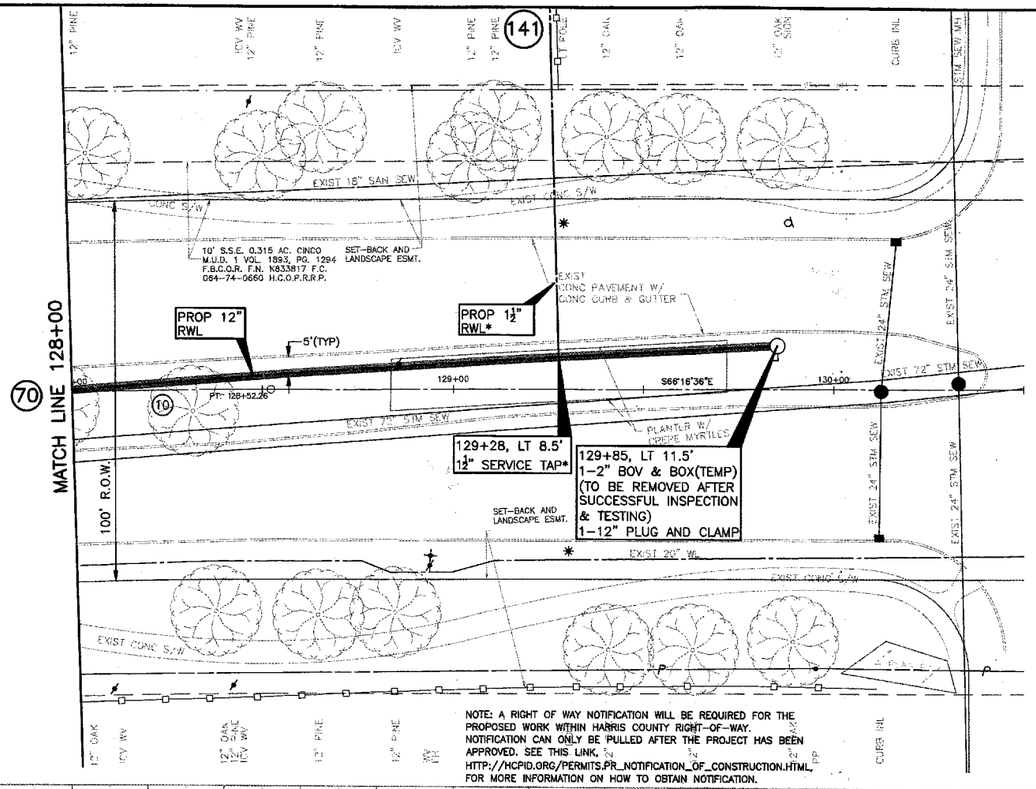
CINCO RANCH RECLAIMED WATER SYSTEM

WESTHEIMER PARKWAY (123+50 TO 128+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 70 OF 154

PATH/FILENAME: L:\CIVIL\...\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov. 20, 2012 8:15:25 PM
ANSI D - 20-Nov-12



CL CURVE DATA
PC= 124+89.98
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CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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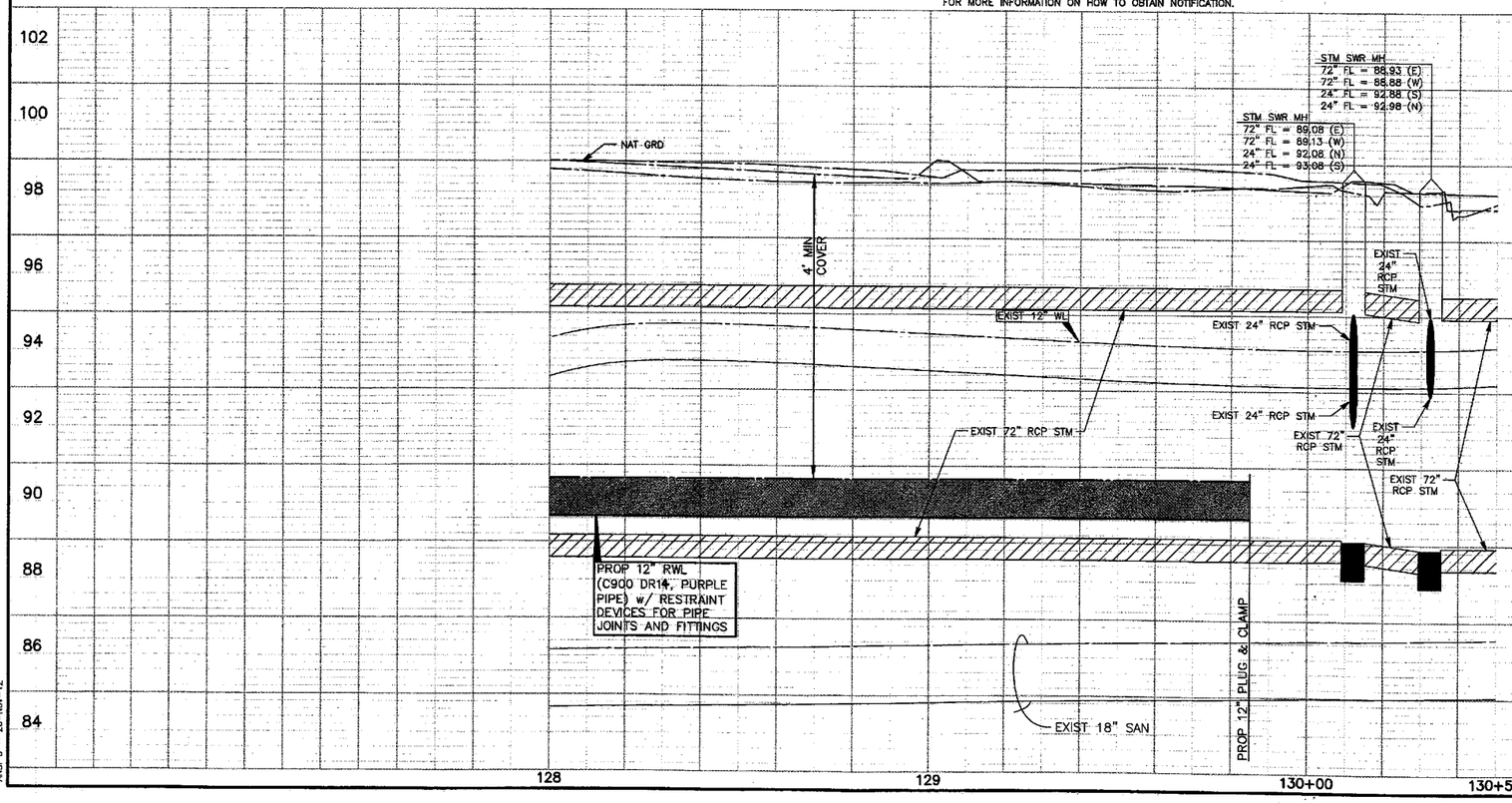
WESTHEIMER PARKWAY - HARRIS



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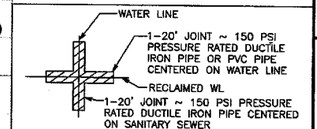

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 71 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
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PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM
WESTHEIMER PARKWAY (128+00 TO 130+50)
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-WPKY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 71 OF 154

PATH/FILENAME: L:\CINC...\P&P-WPKY.DWG
LAST UPDATE: Tuesday, Nov... 20, 2012 7:30:36 PM
PLOT DATE: Tuesday, Nov... 20, 2012 8:16:00 PM
ANSI D - 20-Nov-12

11+91, LT 85.2'
CONNECT TO EXIST WATER METER #70071723*

11+60, LT 83.3'
PVB#247 (TO BE REMOVED)*

11+82, LT 78.4'
1–2" BOV & BOX (TEMP):
(TO BE REMOVED AFTER SUCCESSFUL INSPECTION & TESTING)
1–8" RWL PLUG AND CLAMP

PROP 1½" RWL*

11+82, LT 72.5'
1½" SERVICE TAP*

11+82, LT 51.3'
1–8" x 8' TEE
1–8" GV & BOX

PROP 8" RWL

13+01, LT 45.1'
1–8" GV & BOX

12+27.70 PEEK ROAD=
1+85.00 PARKWALK LANE

14+14, LT 44.4'
2–8" x 45° BENDS

14+14, LT 7.1'
2–8" x 45° BENDS

100' R.O.W.

PROP 8" RWL

15+26, LT 9.6'
2" RECLAIMED AIR RELEASE VALVE
(SEE DETAIL SHT 147)

MATCH LINE 15+50 (73)

10+75, RT 43.4'
CONNECT TO EXIST WATER METER #70176714*

PROP 1½" RWL*

PROP 8" RWL

10+75, RT 67.7'
PVB#246 (TO BE REMOVED)*

11+82, RT 47.5'
1½" SERVICE TAP*

PLANTER W/ CRAPE MYRTLES

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

SET-BACK AND LANDSCAPE ESMT.

EXIST 8" FM

EXIST 12" WL

EXIST 10" SAN

EXIST 24" RCP STM

EXIST 8" SAN

EXIST 8' x 6' RC BOX

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

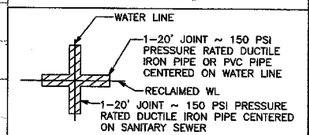
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

CL CURVE DATA
PC= 13+04.23
Δ= 38°39'05"
R= 2000.00'
L= 1349.19'
PT= 26+53.42

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

PEEK ROAD – FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	12-19-13	TRAFFIC & TRANSPORTATION	
WASTEWATER	4-8-14	STORM WATER QUALITY	
STORM	4.15.14	FACILITIES	4.3.14
STREET & BRIDGE			

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 72 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

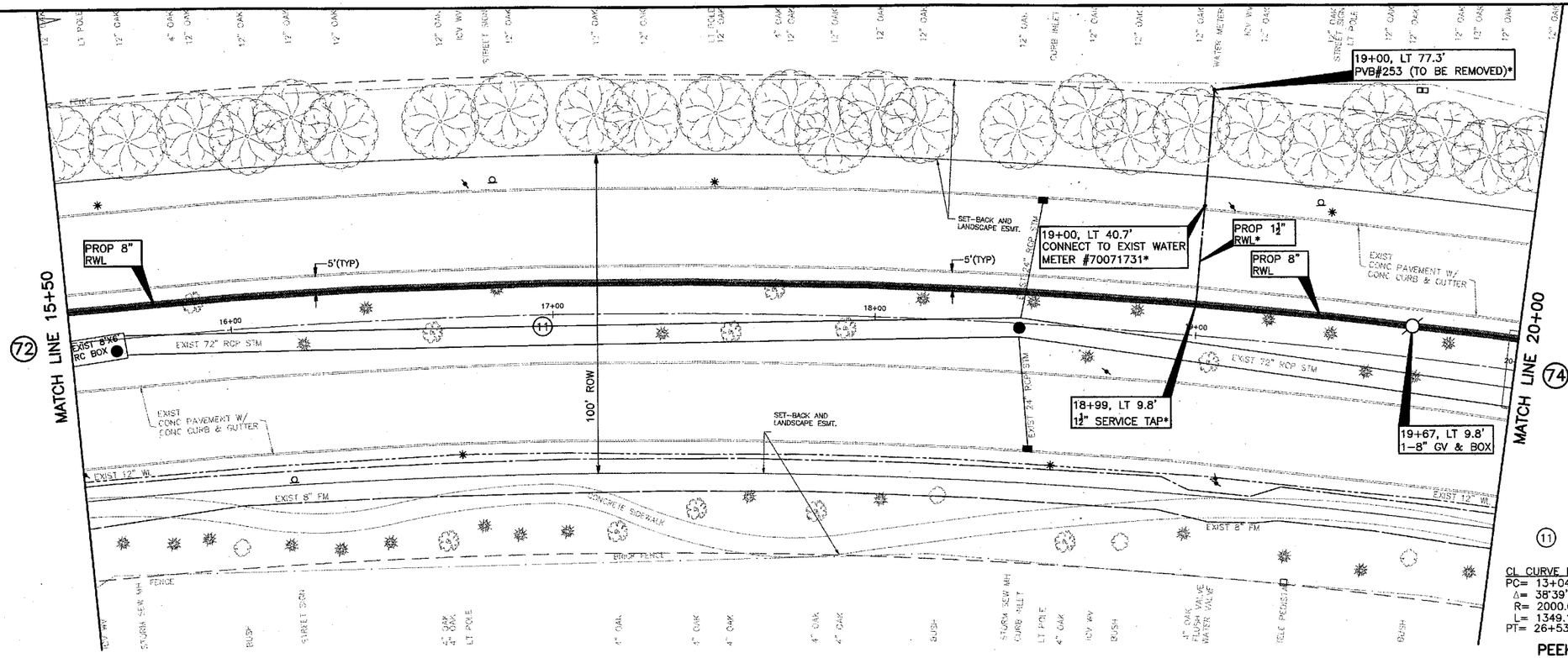
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (11+00 TO 15+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P–PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 72 OF 154

PATH/FILENAME: L:\DWG\99_DWG\99_PW\P&P–PRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, November 20, 2012 8:20:21 PM
ANSI D – 20–Nov–12



PEEK ROAD – FORT BEND

CL CURVE DATA
PC= 13+04.23
Δ= 38°39'05"
R= 2000.00'
L= 1349.19'
PT= 26+53.42

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION -
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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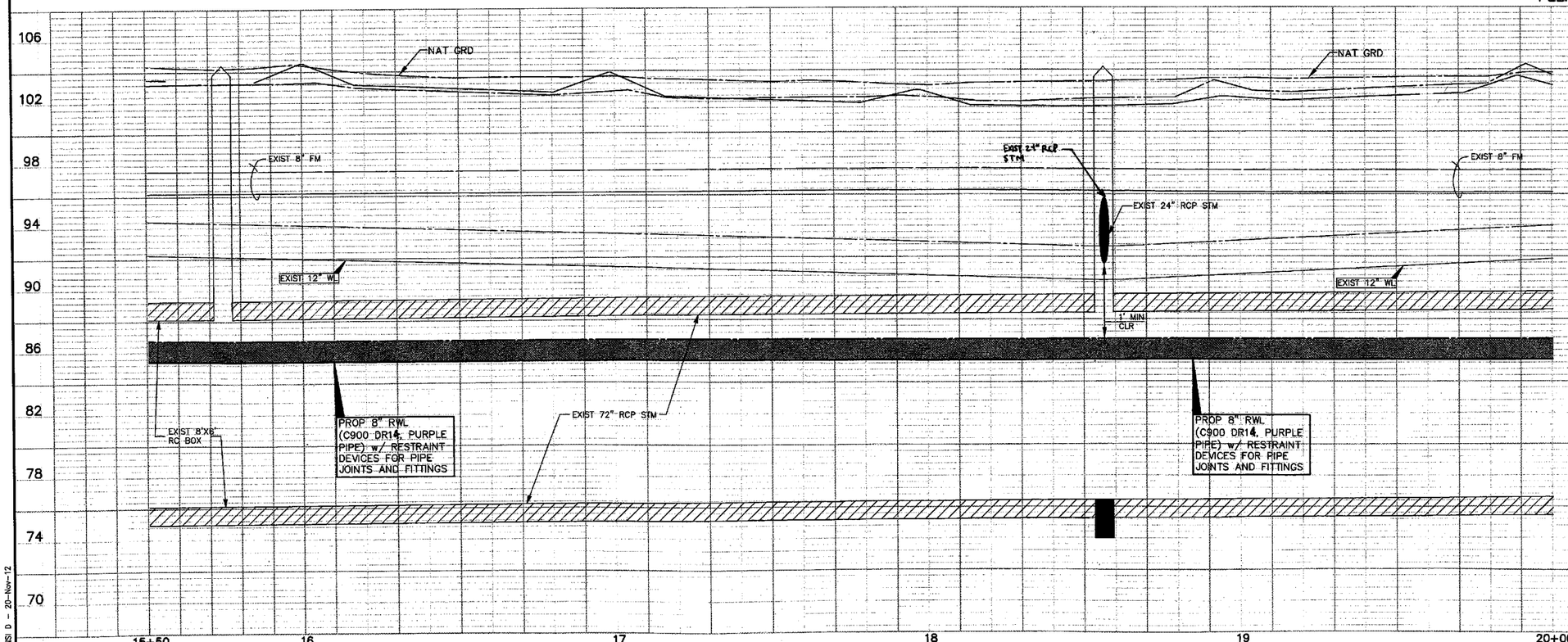
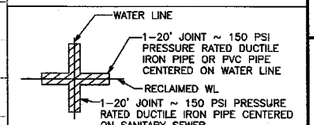


NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 73 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/2/12

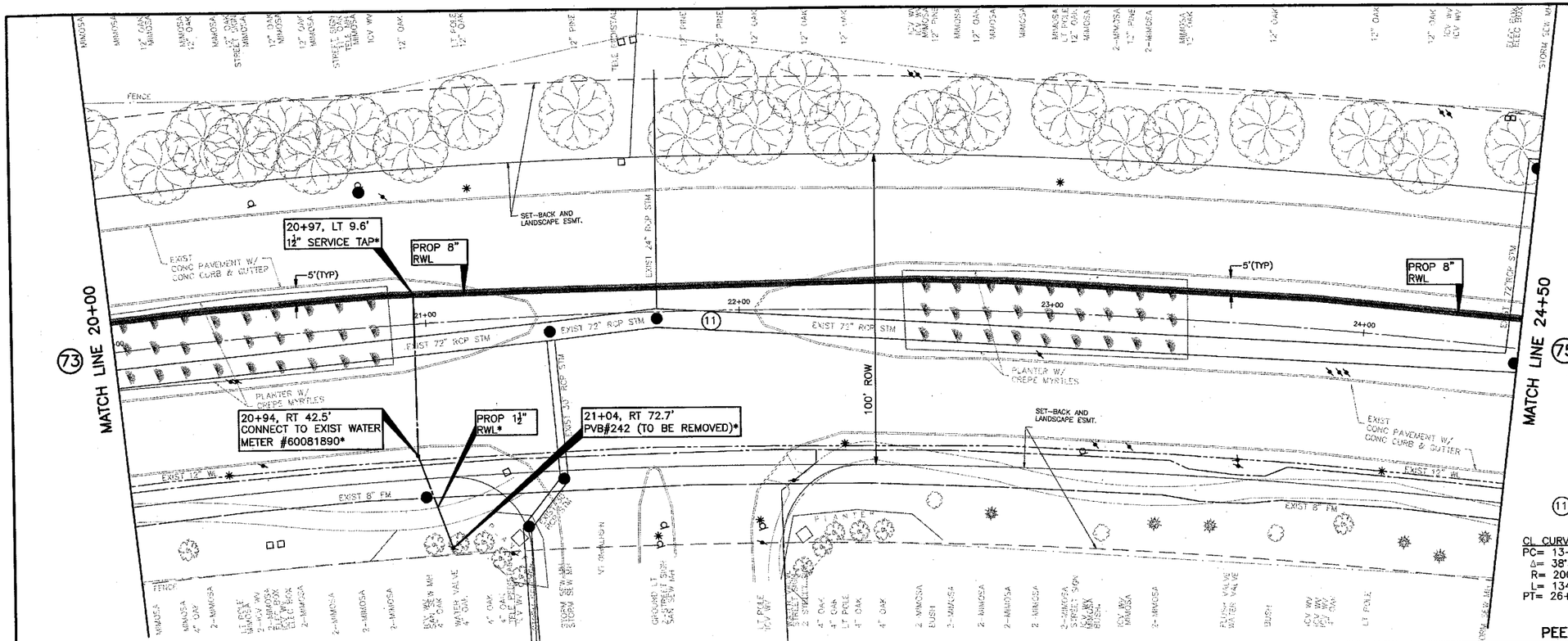
CINCO RANCH RECLAIMED WATER SYSTEM
PEEK ROAD (15+50 TO 20+00)
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

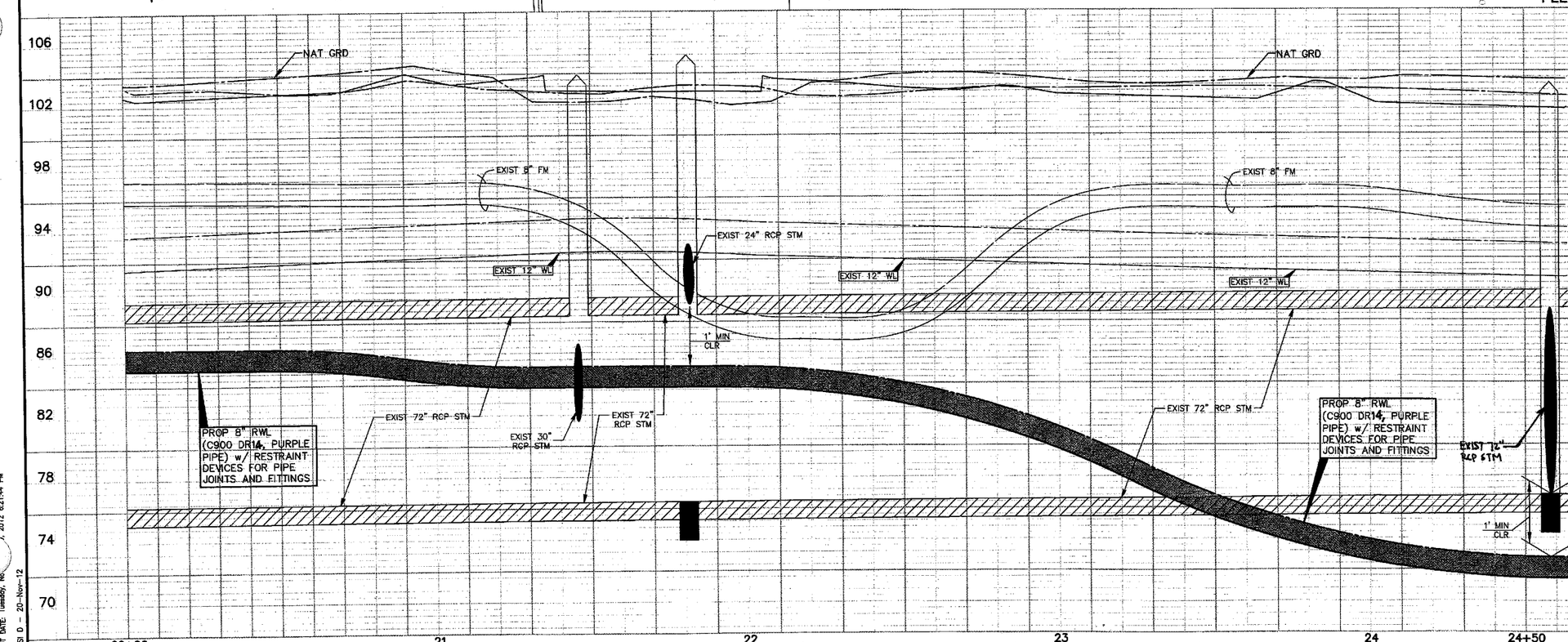
PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 73 OF 154

PIPE ENGINEERING 52149 DRAWING NUMBER

PATH/FILENAME: L:\CIVIL\DWGS\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 6:15:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 6:21:03 PM
ANSI D - 20-Nov-12





CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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NOTE: (1)
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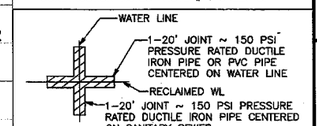

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO:	2011-1040
DRAWING SCALE	
HORZ :	1" = 20'
VERT :	1" = 2'
SHEET No:	74 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101, WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

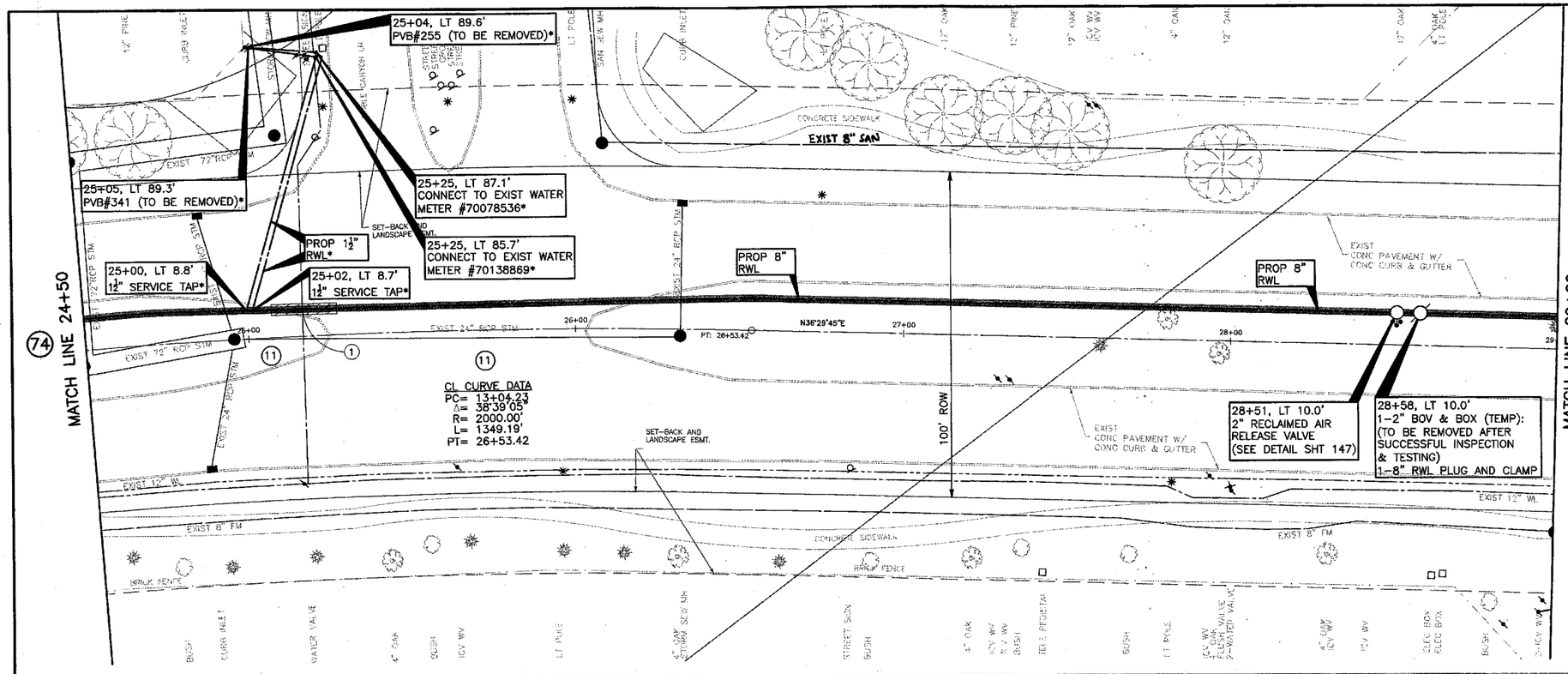
CINCO RANCH RECLAIMED WATER SYSTEM

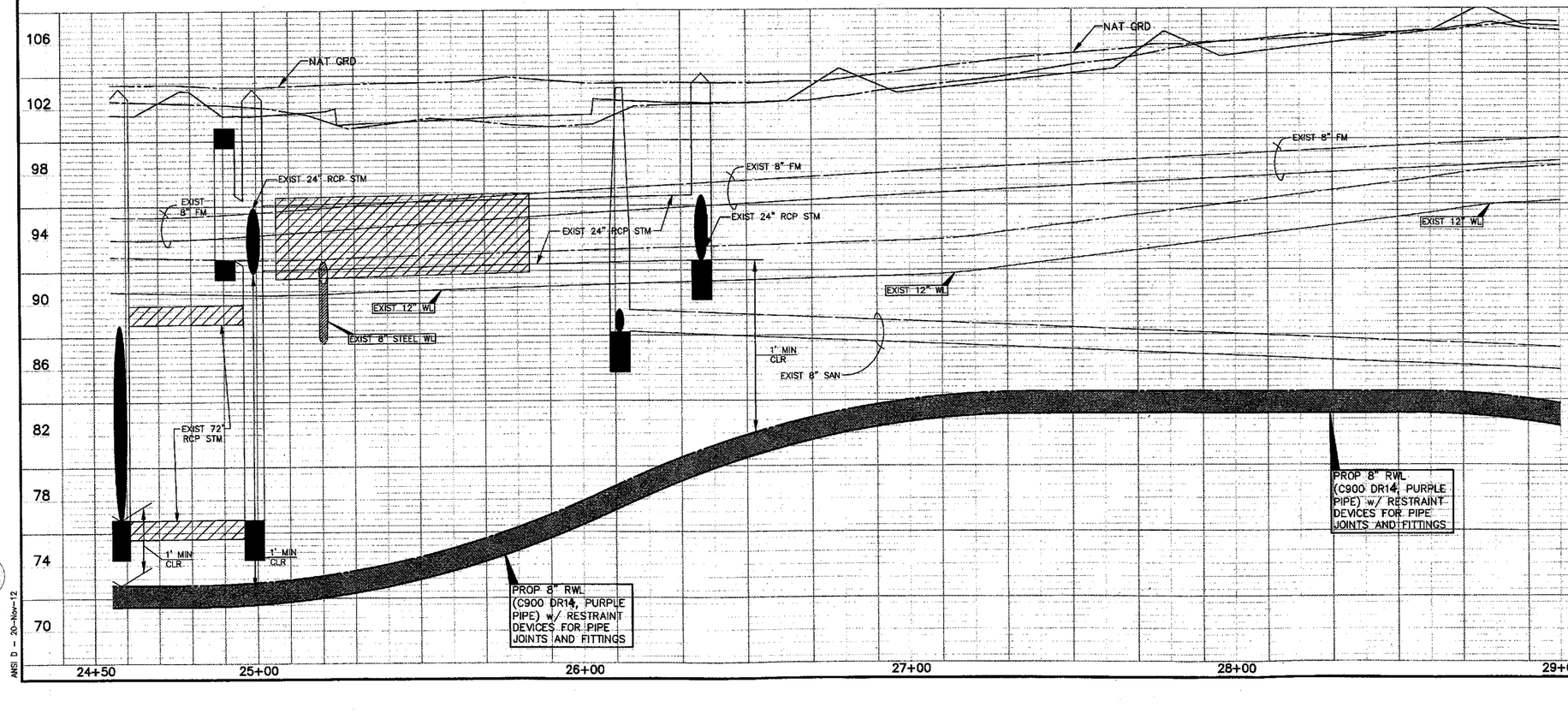
PEEK ROAD (20+00 TO 24+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 74 OF 154

PATH/FILENAME: L:\CINCO\59\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 6:15:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 6:21:44 PM
ANSI D - 20-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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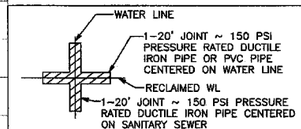
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 75 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/30/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (24+50 TO 29+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 75 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P–PRD.DWG
LAST UPDATE: Tuesday, No..., 2012 6:15:14 PM
PLOT DATE: Tuesday, No..., 2012 6:22:25 PM
ANSI D – 20–Nov–12

CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR ENERGY TRANSFER AND KINDER MORGAN PIPELINES AS SHOWN ON SHEET 4 OF 154.

30' AMOCO GAS CO. ESMT. VOL. 489, PG. 132 & VOL. 490, PG. 47 DEFINED & RESTRICTED VOL. 1903, PG. 1057 F.B.C.O.R.

50' HOUSTON PIPELINE CO. ESMT. VOL. 204, PG. 453, VOL. 206, PG. 117 VOL. 204, PG. 627 DEFINED & RESTRICTED VOL. 1736, PG. 75

EXIST 8" SAN

SET-BACK AND LANDSCAPE ESMT.

29+02, LT 10.0'
1½" SERVICE TAP*

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

PROP 8" RWL

MATCH LINE 29+00

N36°29'45"E

29+06, RT 44.2'
CONNECT TO EXIST WATER METER #70058175*

PROP 8" RWL

EXIST 12" WL

PROP 1½" RWL*

29+01, RT 80.8'
PVB#241 (TO BE REMOVED)*

EXIST 30" GAS LINE

EXIST 20" GAS LINE

EXIST 9'X8' RC BOX STM

EXIST 42" RCP STM

PROP 16" RWL

31+87, LT 9.8'
1-16" x 8" TEE

EXIST CONC PAVEMENT CONC CURB & GUTTER

EXIST 12" WL

EXIST 8" FM

EXIST 8" SAN

15' D.E. DOC. NO. 20121047365 F.B.C.O.R.

20' S.S.E. 0.368 AC. VOL. 1893, PG. 1294 F.B.C.O.R. F.N. K833617 F.C. 054-74-0660 H.C.O.R.R.P.R.

16' U.E.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES. "

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.

EXIST 8" FM

EXIST 12" WL

EXIST 20" GAS LINE (KINDER MORGAN)

EXIST 30" GAS LINE (ENERGY TRANSFER)

2' MIN CLR

EXIST 8" SAN

2' MIN CLR

EXIST 3-9'X8' PRECAST CONCRETE BOXES

EXIST 42" RCP STM

PROP 16" RWL

3' MIN CLR

EXIST 8" SAN

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

106 102 98 94 90 86 82 78 74 70

29 30+00 31 32 32+50

WATER LINE
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE OR PVC PIPE CENTERED ON WATER LINE
RECLAIMED WL
1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE CENTERED ON SANITARY SEWER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-13-13	STORM WATER QUALITY 4-8-14
STORM 4.15.14	FACILITIES David Amt 4.7.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 76 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
1575 W. DUNHAM, SUITE 101 WEST
HOUSTON, TEXAS 77055-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM

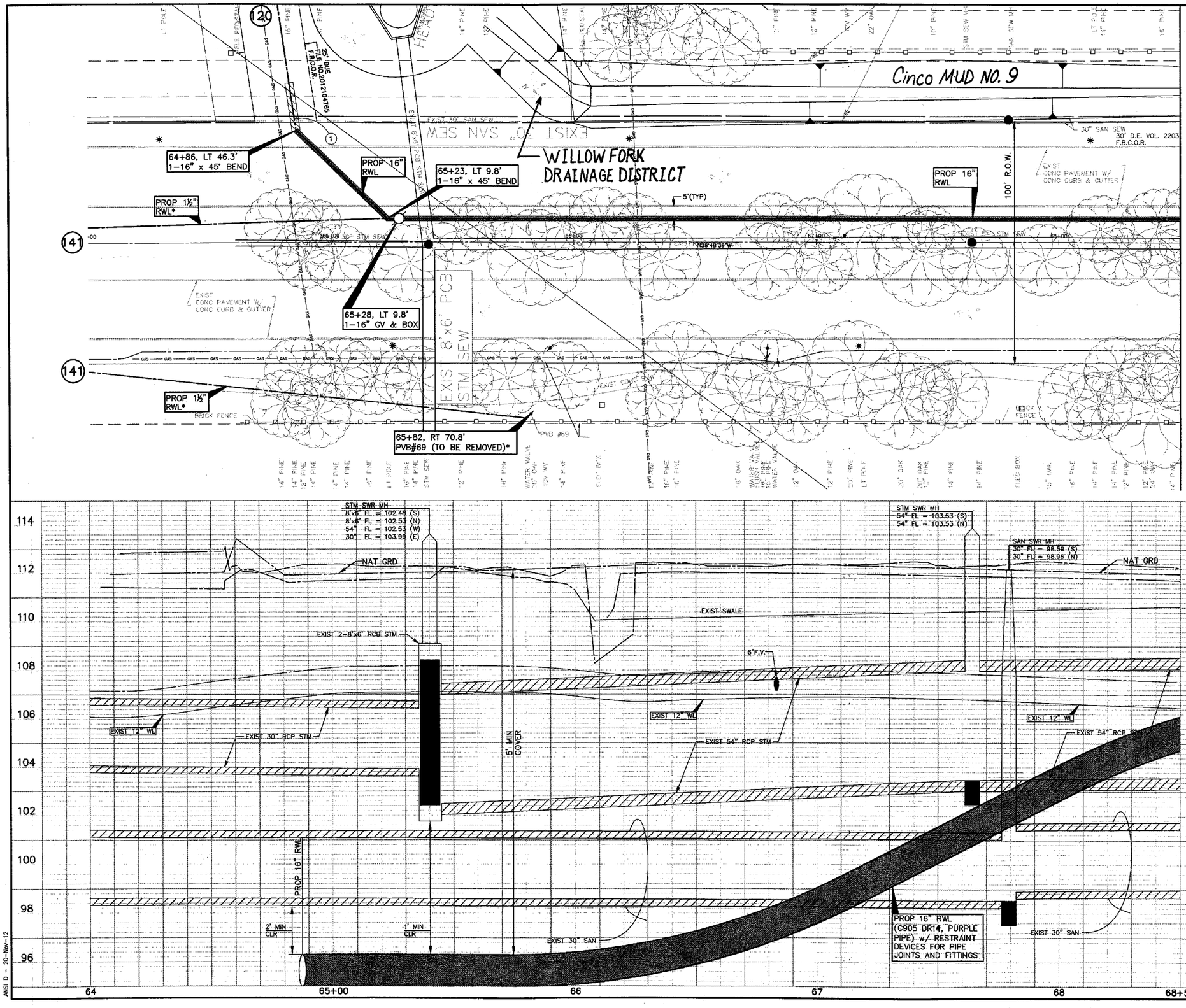
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PEEK ROAD (29+00 TO 32+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 76 OF 154

PATH/FILENAME: L:\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, November 20, 2012 8:23:06 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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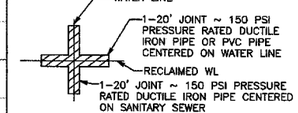
PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-4-14	TRAFFIC & TRANSPORTATION
WASTEWATER 12-8-14	STORM WATER QUALITY
STORM 12.15.14	FACILITIES 12.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 77 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11-21-12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

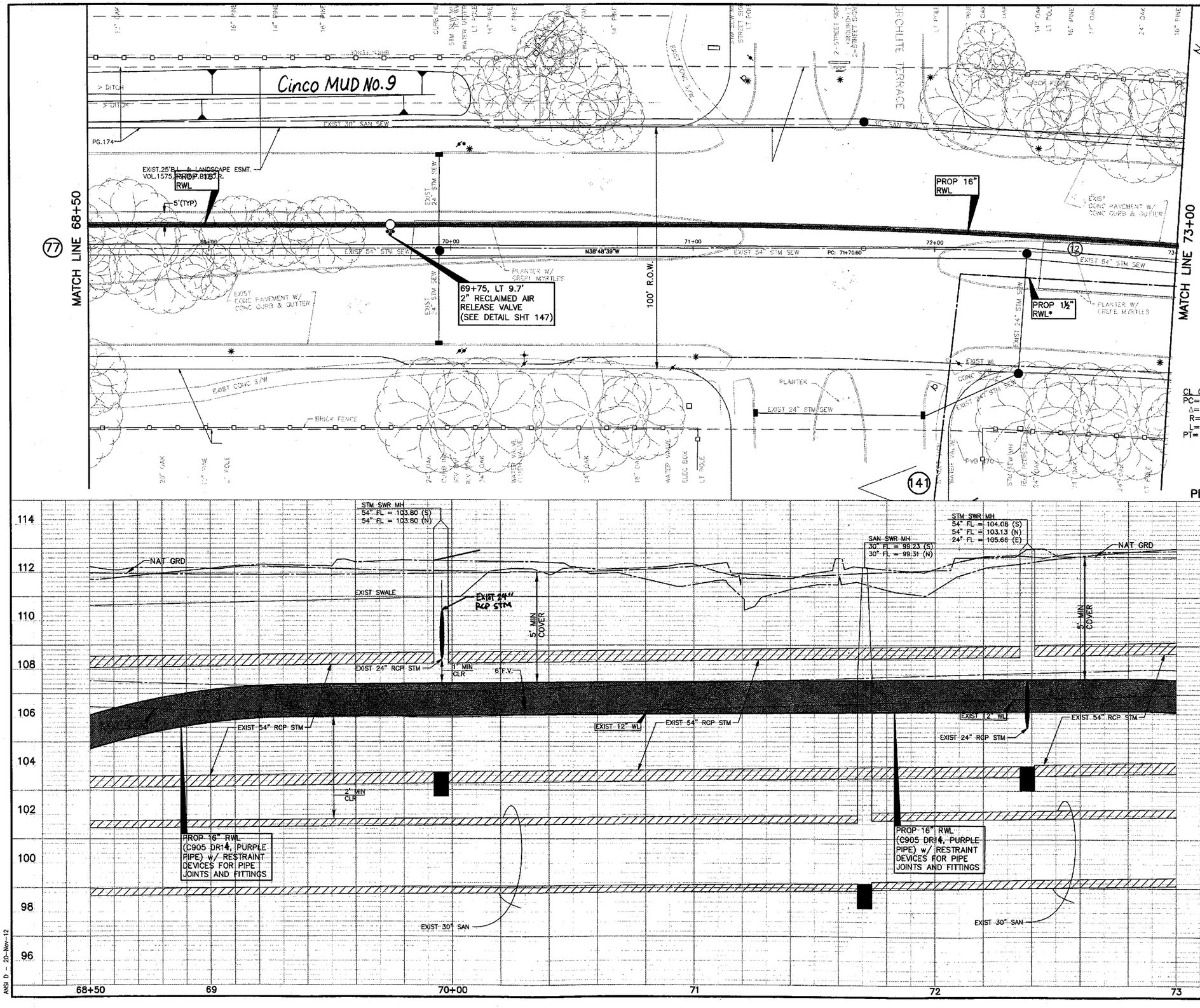
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (64+00 TO 68+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 77 OF 154

PATH/FILENAME: L:\CINCO\19\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:23:36 PM
ANSI D - 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

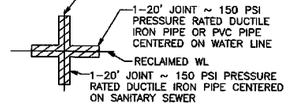
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CL CURVE DATA
PC= 71+70.60
Δ= 36°39'19"
R= 2000.00'
L= 1279.51'
PT= 84+50.11

PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.7.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 78 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

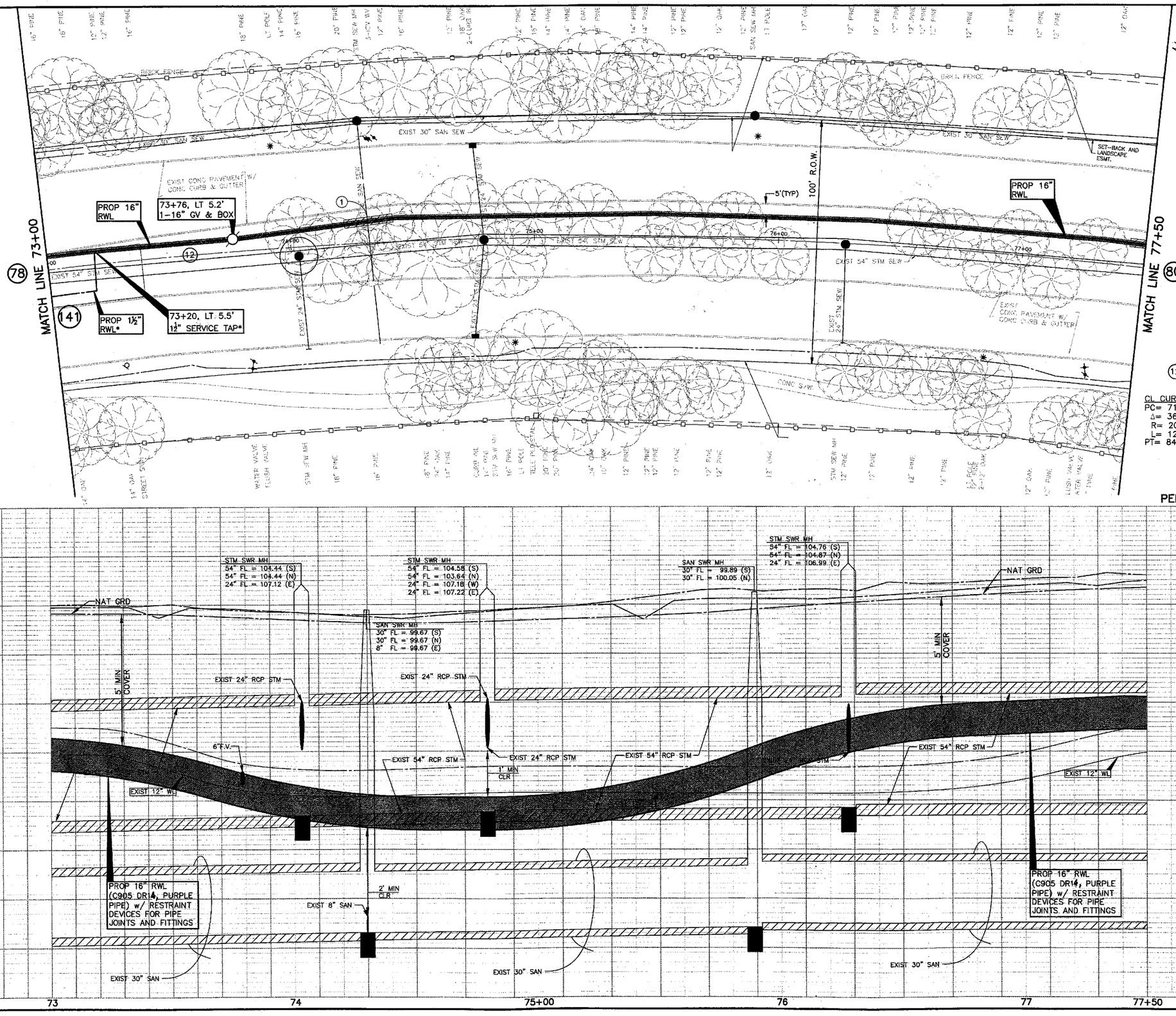
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
PEEK ROAD (68+50 TO 73+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 78 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, Nov. 20, 2012 8:24:05 PM
ANSI D - 20-Nov-12



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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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NOTE:
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(12)

CL CURVE DATA
PC= 71+70.60
Δ= 36°39'19"
R= 2000.00'
L= 1279.51'
PT= 84+50.11

PEEK ROAD - FORT BEND

NOTE: (1)
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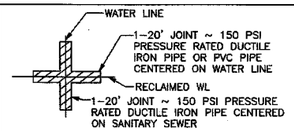

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 79 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

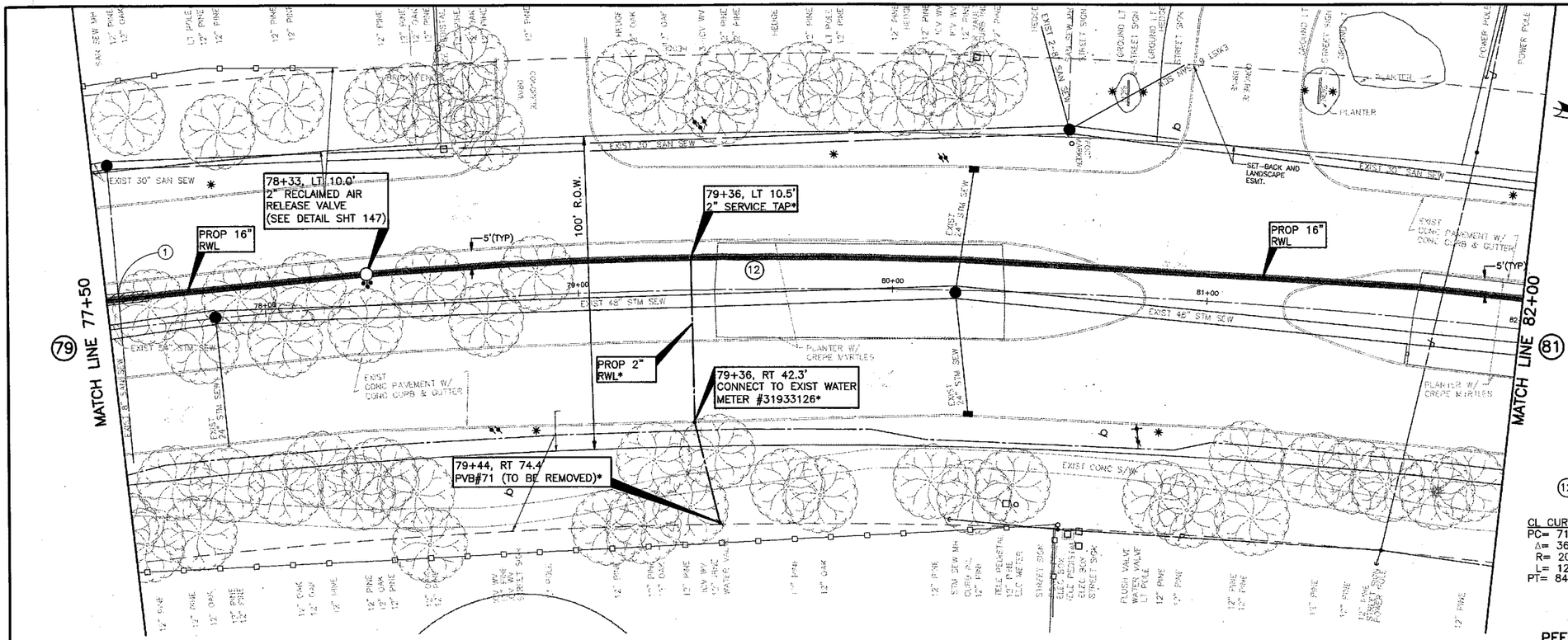
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (73+00 TO 77+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 79 OF 154

PATH/FILENAME: L:\CINCO\...\99\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:24:33 PM
ANSI D - 20-Nov-12



CAUTION:
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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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NOTE:
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(12)

CL CURVE DATA
PC= 71+70.60
Δ= 36°39'19"
R= 2000.00'
L= 1279.51'
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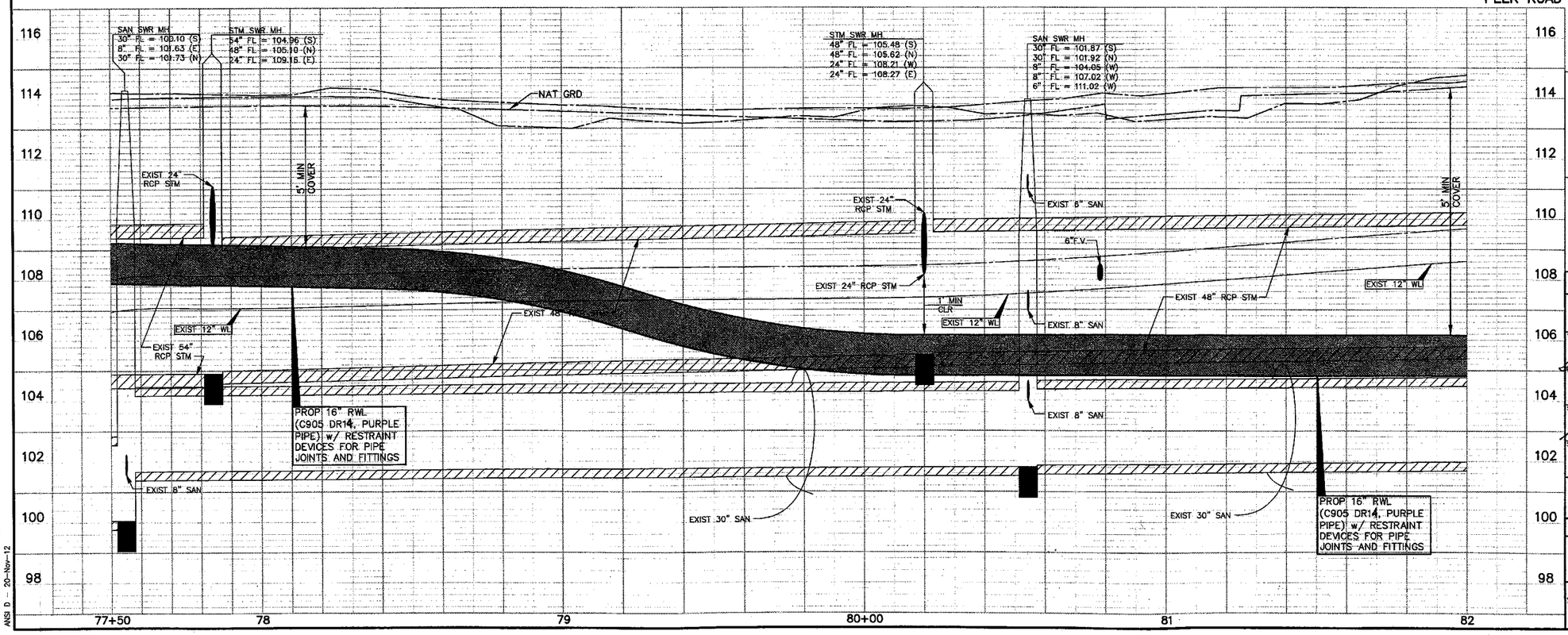
PEEK ROAD - FORT BEND



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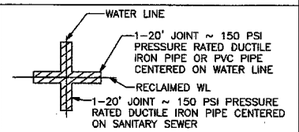

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
12-8-13	
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 80 OF 154

52149 DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REGD. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

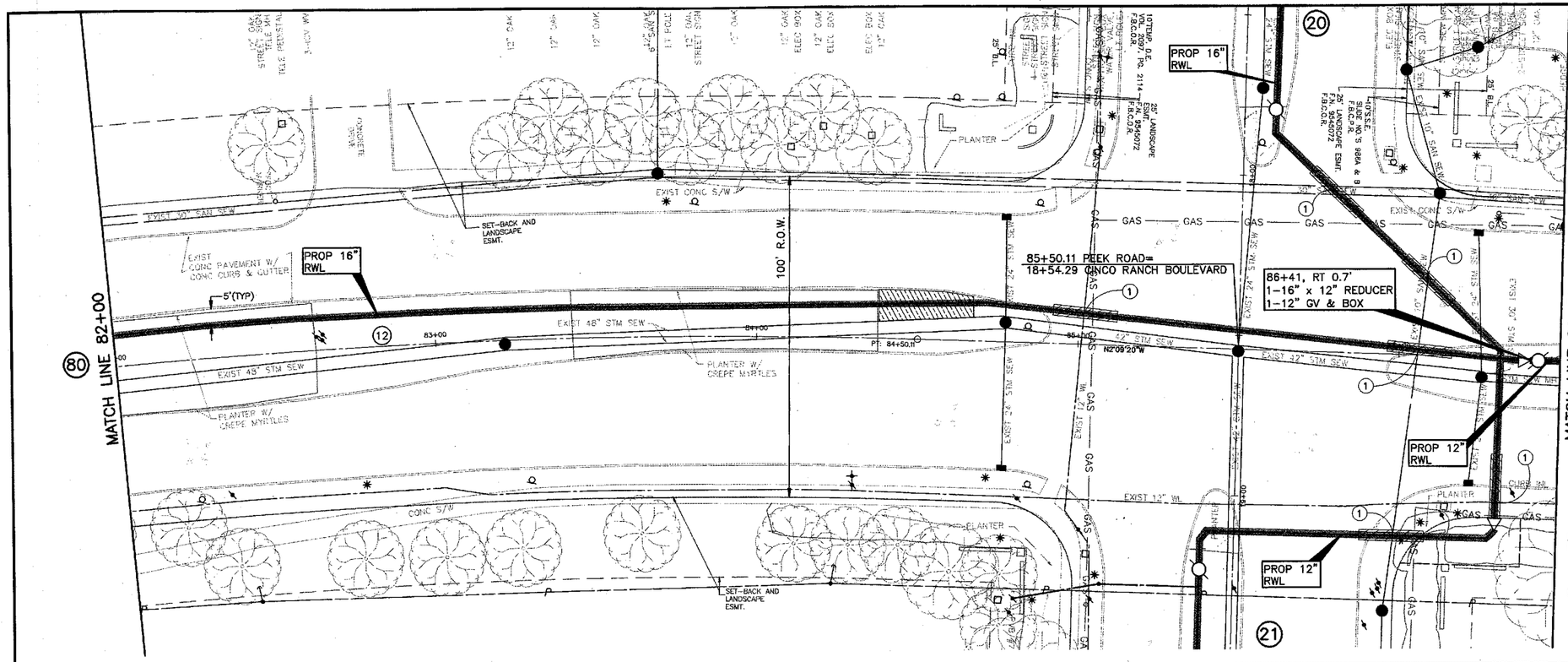
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (77+50 TO 82+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 80 OF 154

PATH/FILENAME: L:\CINCO...\ps\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 6:15:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 6:25:05 PM
ANSI D - 20-Nov-12



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(12)

CL CURVE DATA
PC= 71+70.60
Δ= 36°39'19"
R= 2000.00'
L= 1279.51'
PT= 84+50.11

PEEK ROAD - FORT BEND

NOTE: (1)
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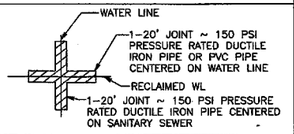

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

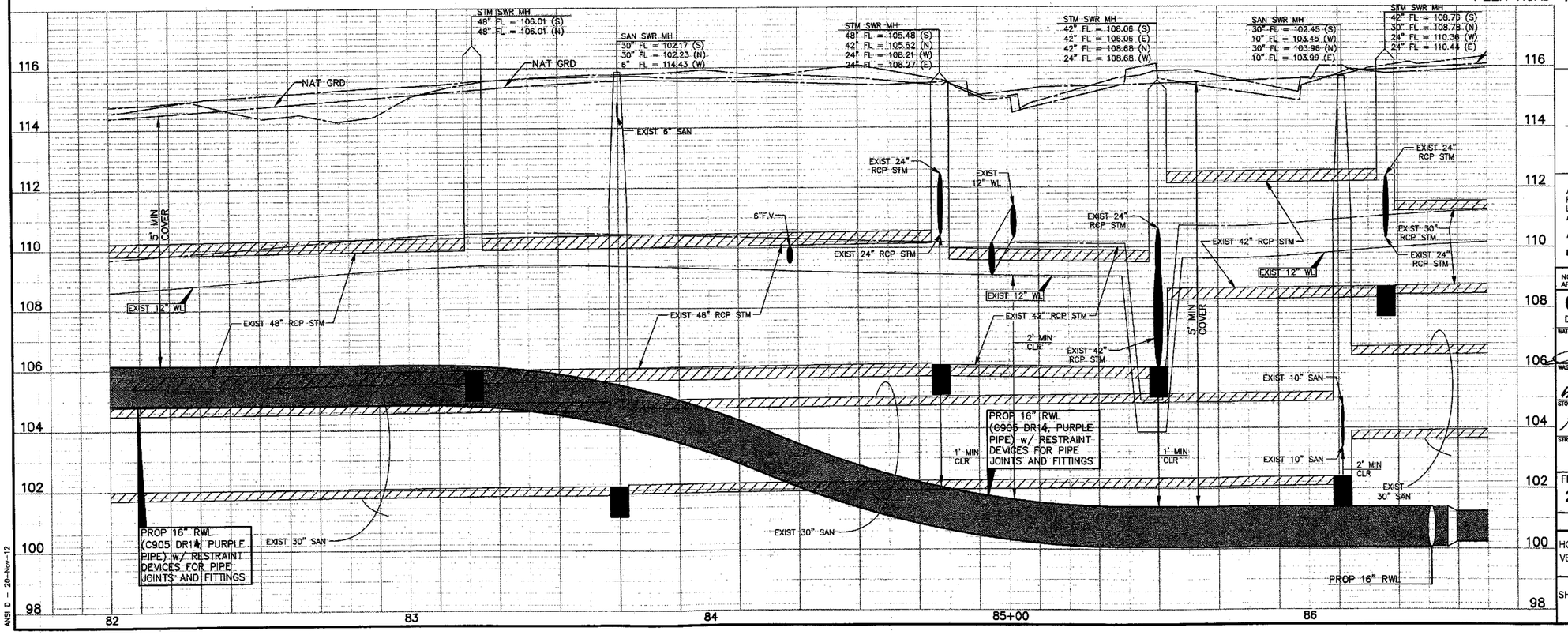
WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 81 OF 154

52149
DRAWING NUMBER



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PLOT DATE: Tuesday, Nov. 20, 2012 6:25:34 PM
ANSI D — 20-Nov-12

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1 (WS&D)

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

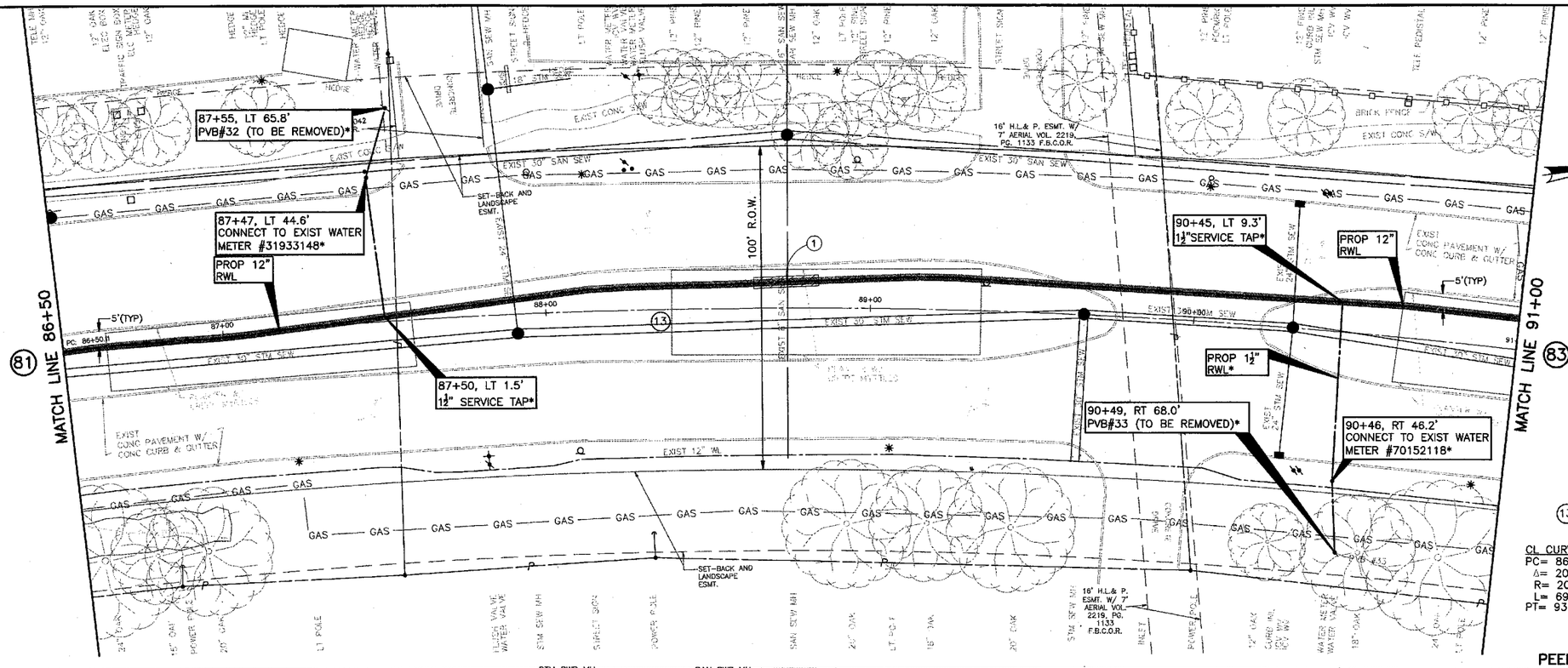
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (82+00 TO 86+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRO
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 81 OF 154



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LEGEND

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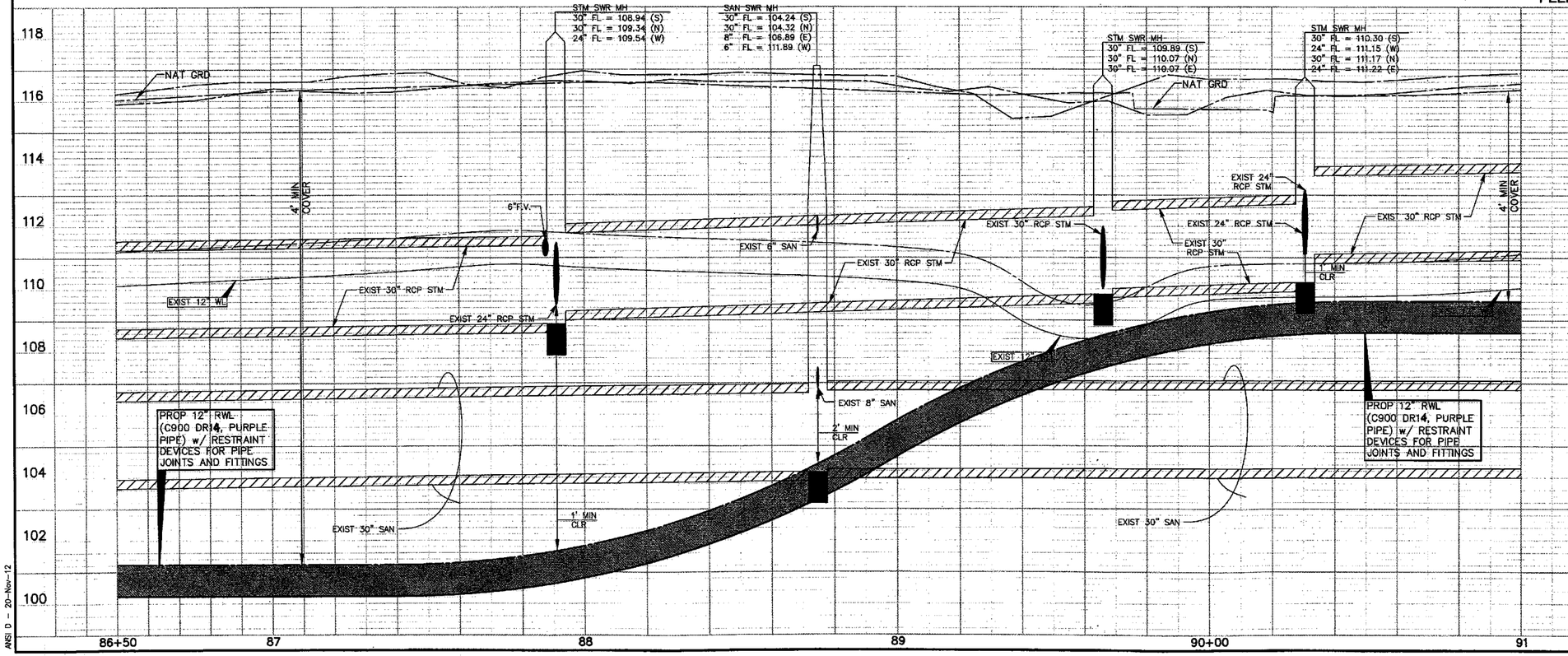
(13)

CL CURVE DATA
PC= 86+50.11
Δ= 20°00'14"
R= 2000.00'
L= 698.27'
PT= 93+48.36

PEEK ROAD - FORT BEND



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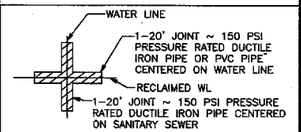

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.5.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 82 OF 154

52149 DRAWING NUMBER

NO.	
DATE	
MADE BY	
APPROVED	
DESCRIPTION	
REVISIONS	

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

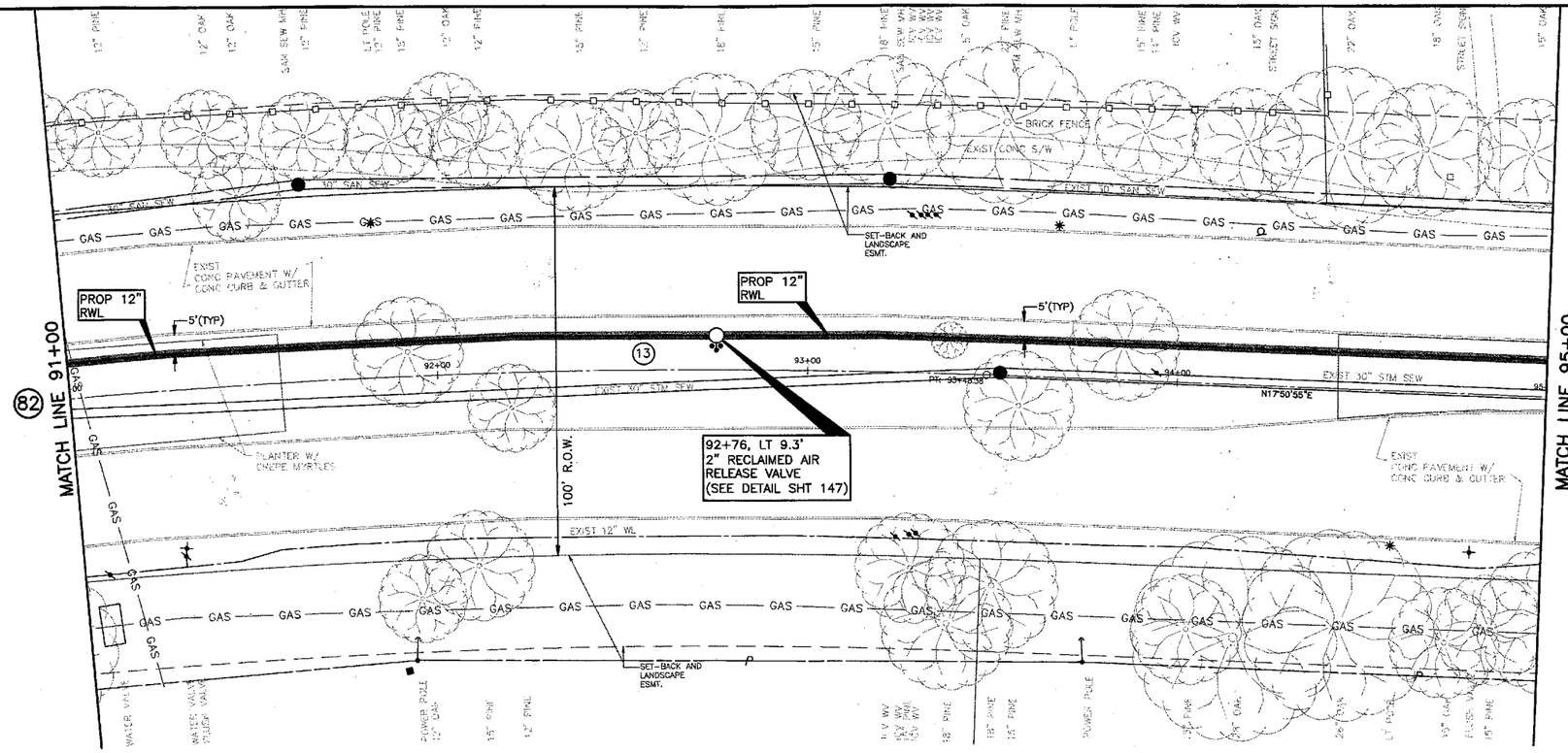
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (86+50 TO 91+00)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 82 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, Nov. 20, 2012 8:26:04 PM
ANSI D - 20-Nov-12



CL CURVE DATA
PC= 86+50.11
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R= 2000.00'
L= 698.27'
PT= 93+48.38

CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
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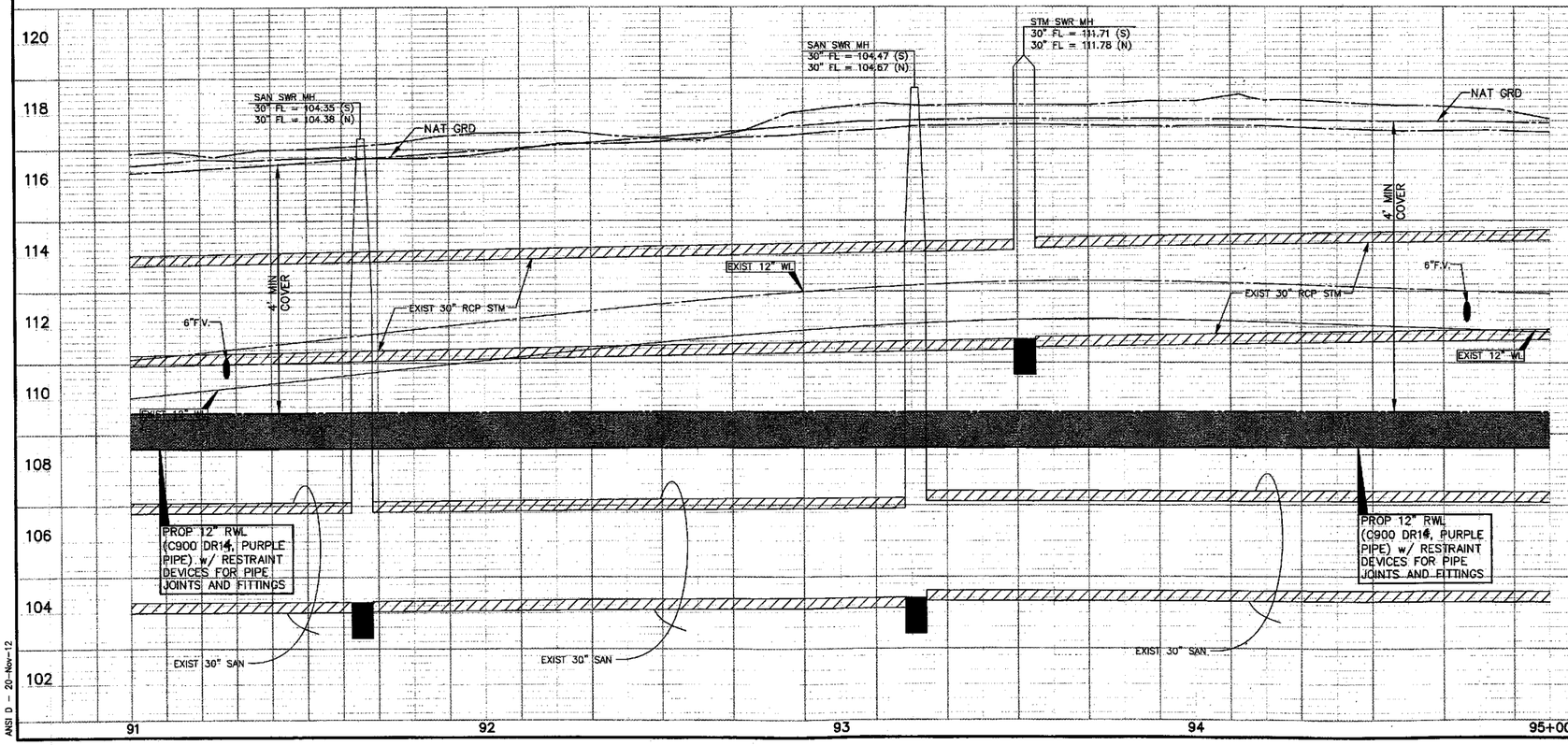
PEEK ROAD - FORT BEND



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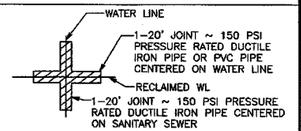


APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 83 OF 154
52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
4/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

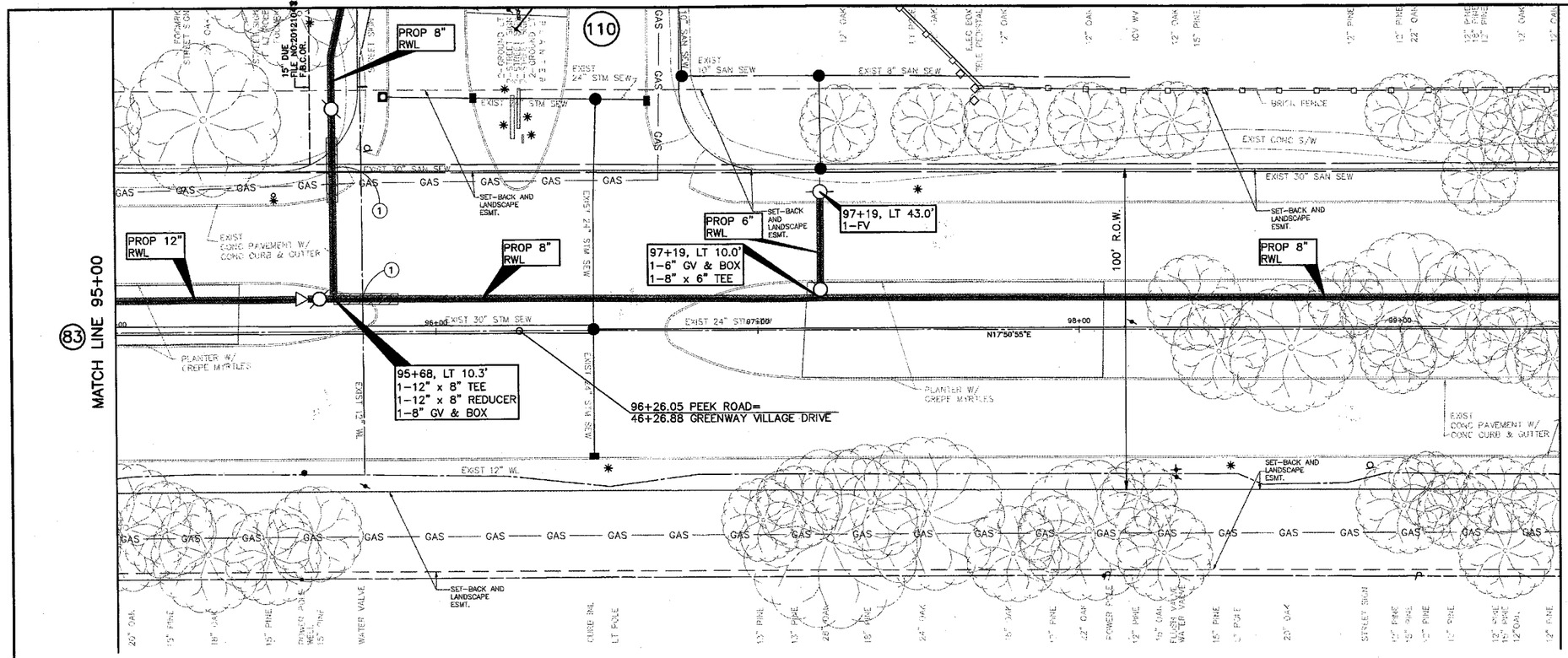
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (91+00 TO 95+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 83 OF 154

PATH/FILENAME: L:\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 8:15:14 PM
PLOT DATE: Tuesday, Nov. 20, 2012 8:26:34 PM
ANSI D - 20-Nov-12



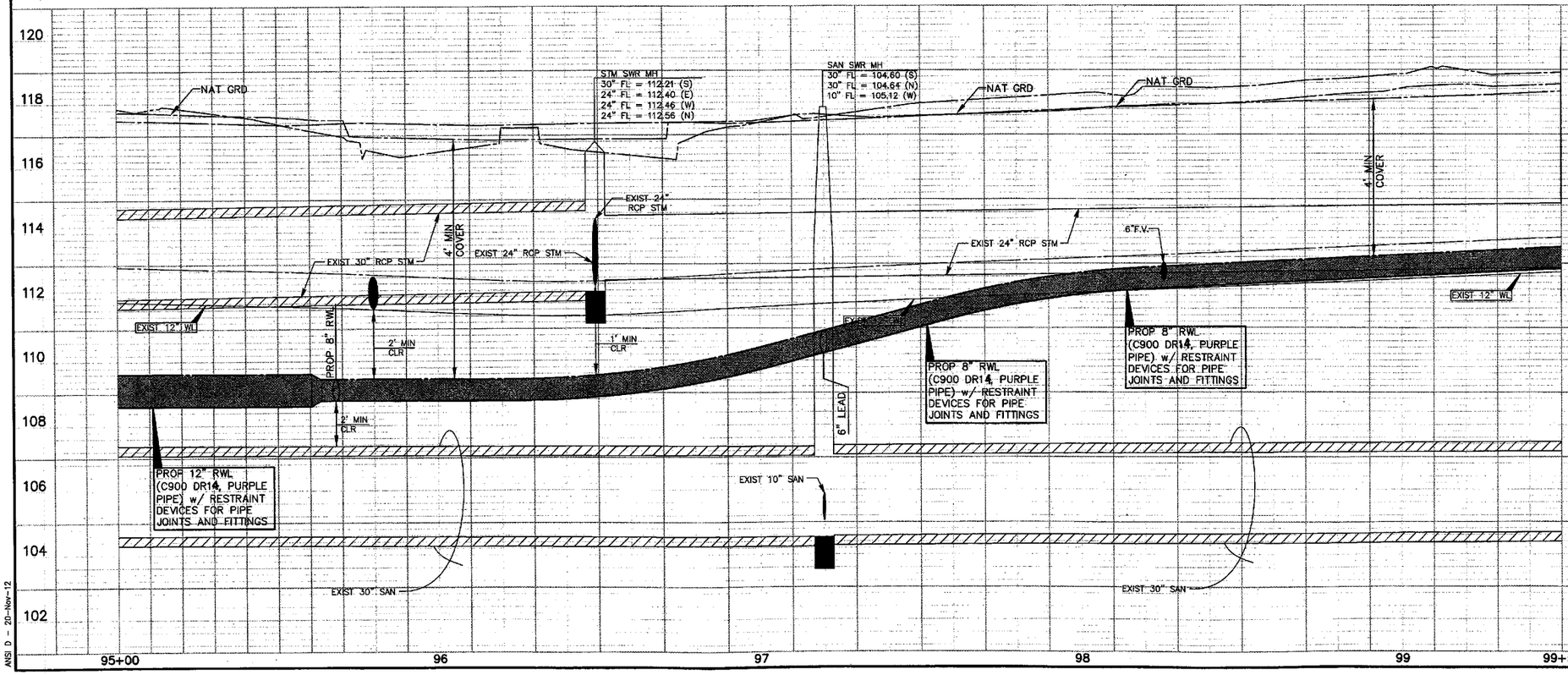
CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

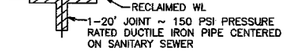
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.



PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.05.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 84 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (95+00 TO 99+50)

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 84 OF 154

52149
DRAWING REVISED

PATH/FILENAME: L:\CINC...\DWG\P&P-PRD.DWG
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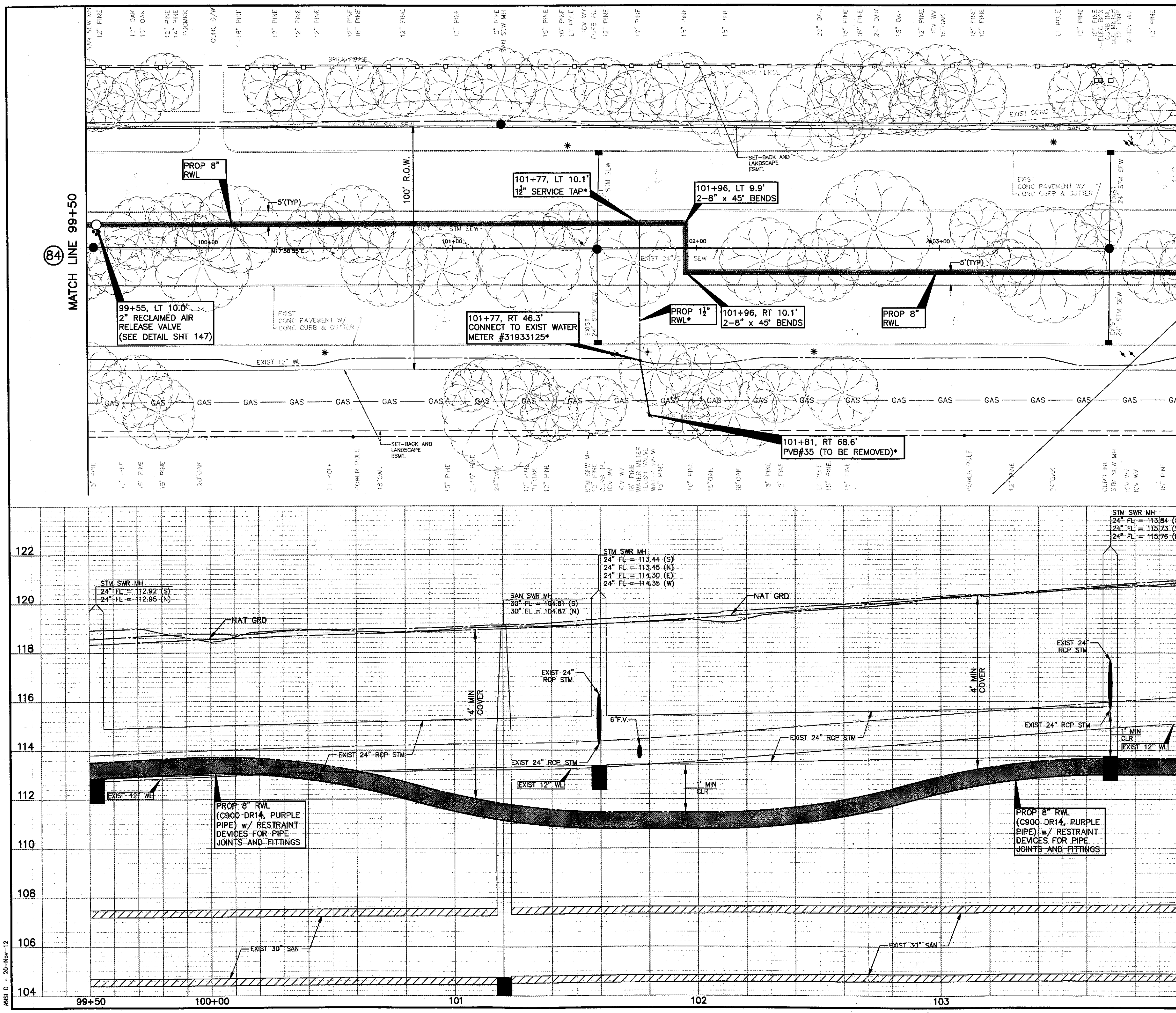
PLOT DATE: Tuesday, No... 20, 2012 6:27:03 PM
ANSI D - 20-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

PEEK ROAD-FORT BEND

NOTE: (1)
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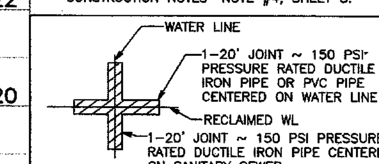

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APPROVED ________ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-12-1...	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 85 OF 154

52149
CITY DRAWING NUMBER

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

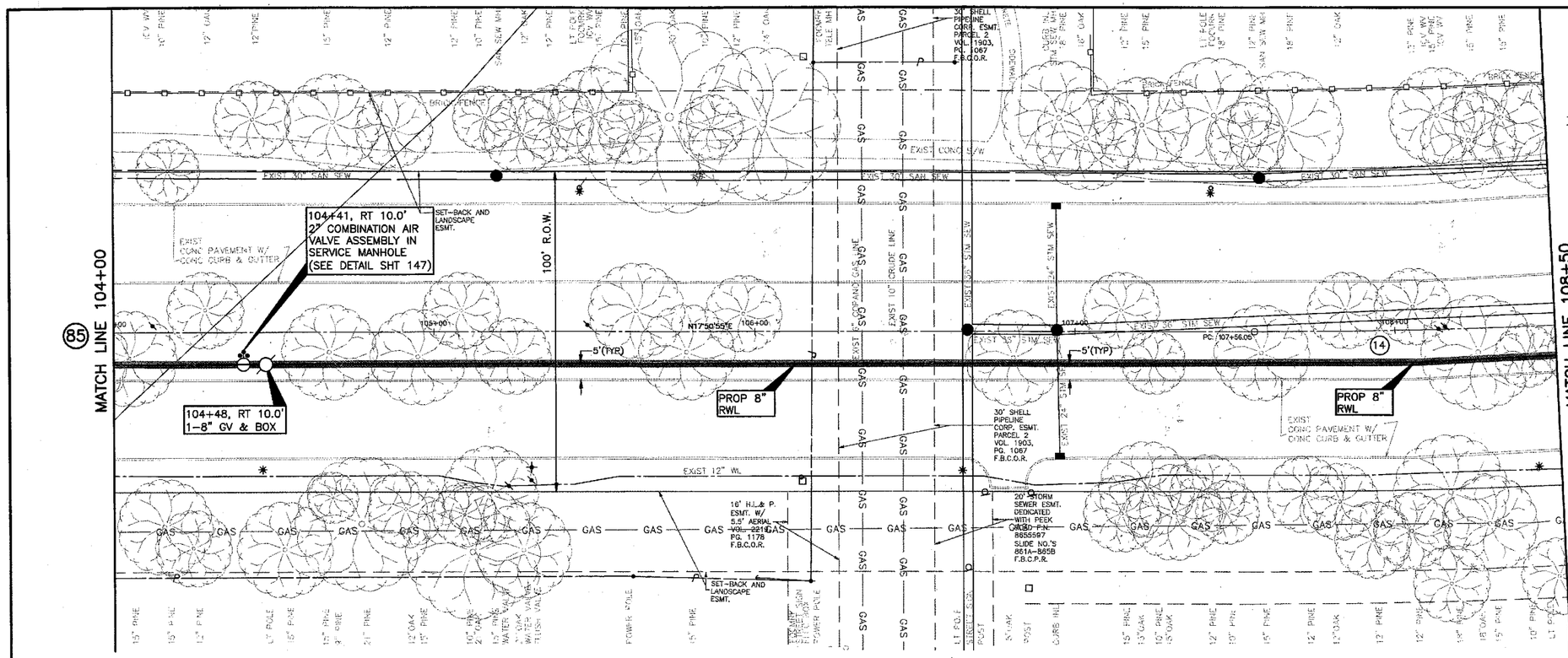
REVISIONS

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
PEEK ROAD (99+50 TO 104+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 85 OF 154

PATH/FILENAME: L:\CINC...59\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, No... 20, 2012 6:15:14 PM
PLOT DATE: Tuesday, No... 20, 2012 6:27:31 PM
ANSI D - 20-Nov-12



SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE: BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

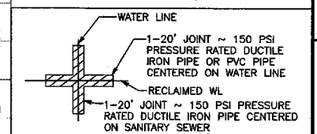
CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

CL CURVE DATA
PC= 107+56.05
Δ= 19°28'49"
R= 2000.00'
L= 679.99'
PT= 114+36.04

PEEK ROAD - FORT BEND

NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 86 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
(713) 260-2500
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (104+00 TO 108+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 86 OF 154

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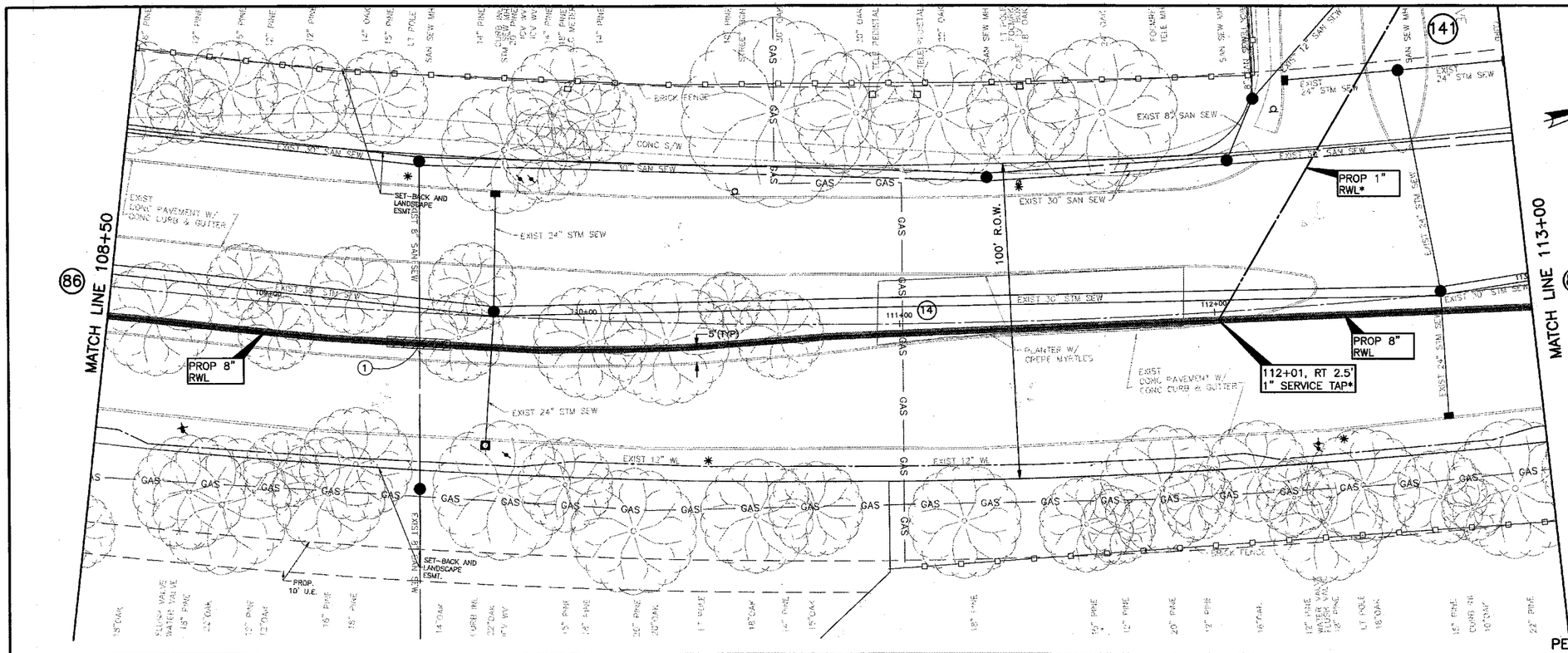
PLOT DATE: Tuesday, Nov 27, 2012 8:28:05 PM
ANSI D — 20-Nov-12



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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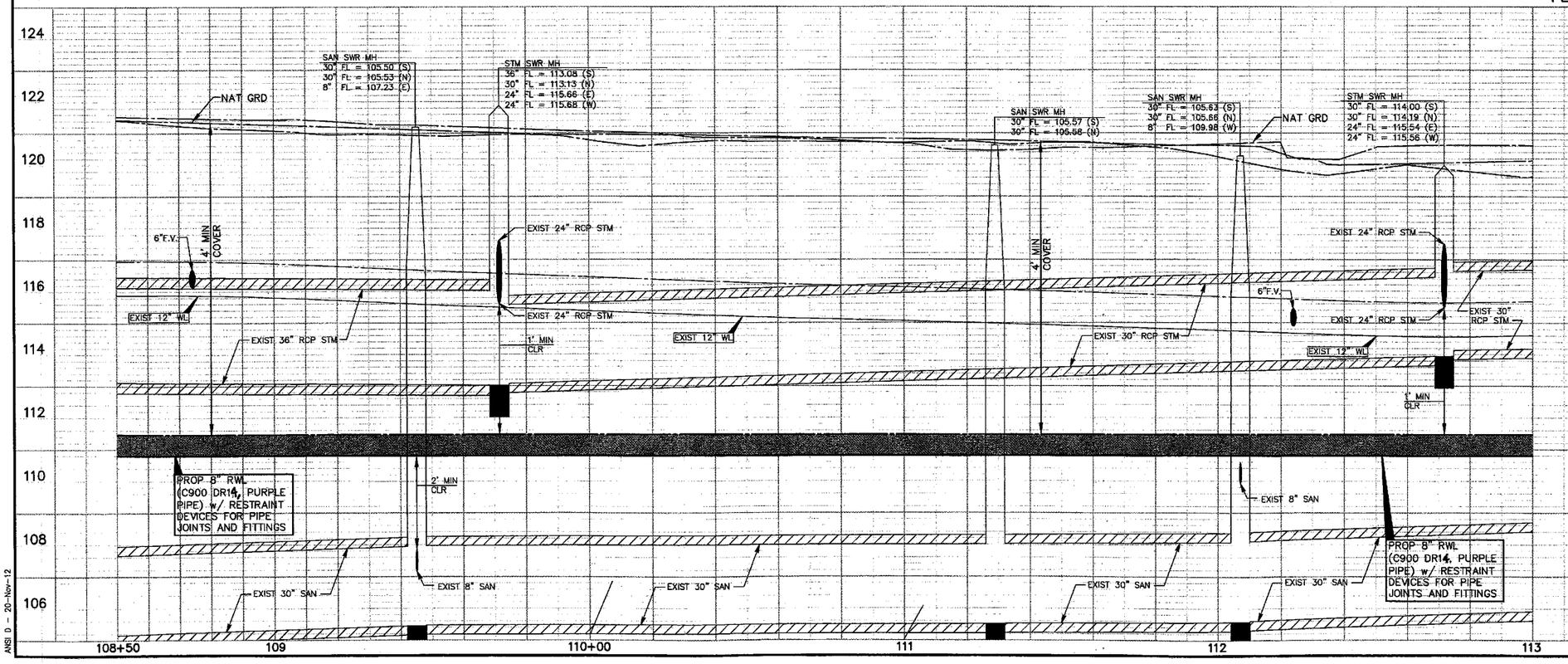
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

(14)

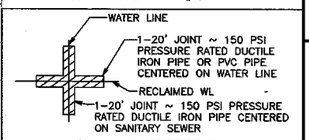
CL CURVE DATA
PC= 107+56.05
Δ= 19°28'49"
R= 2000.00'
L= 679.99'
PT= 114+36.04

PEEK ROAD - FORT BEND



NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/13

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 87 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1569
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

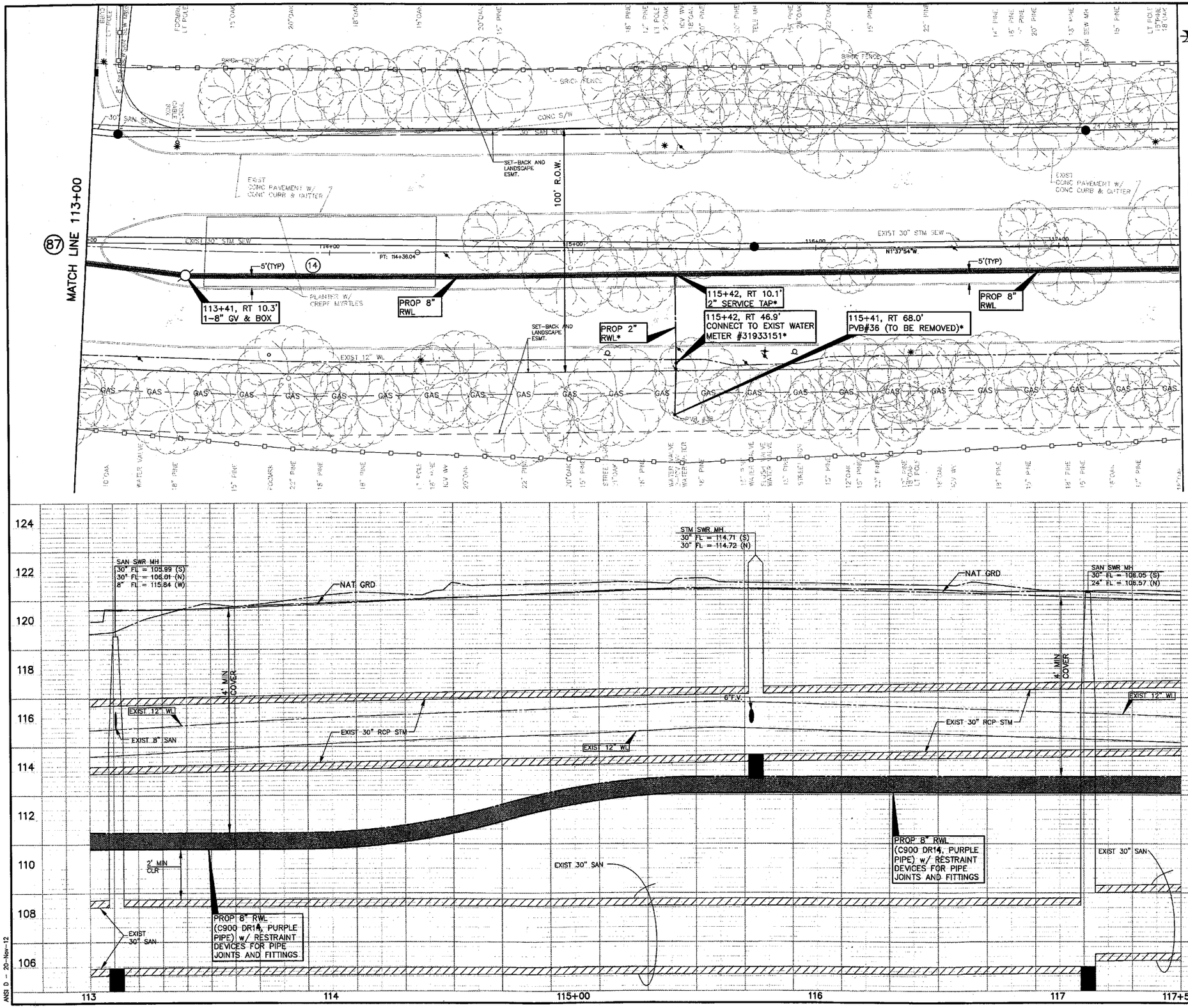
CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (108+50 TO 113+00)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 87 OF 154

PATH/FILENAME: L:\CAD\...\P&P-PRD.DWG
LAST UPDATE: Tuesday, ...20, 2012 6:15:14 PM
PLOT DATE: Tuesday, No...0, 2012 6:28:28 PM
ANSI D - 20-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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NOTE:

BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP R.W.L.

(14)

CL CURVE DATA
PC= 107+56.05
Δ= 19°28'49"
R= 2000.00'
L= 679.99'
PT= 114+36.04

PEEK ROAD - FORT BEND

NOTE: (1)

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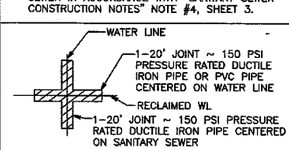

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

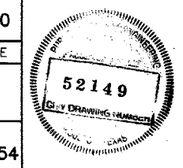
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 88 OF 154



AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
5/12/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

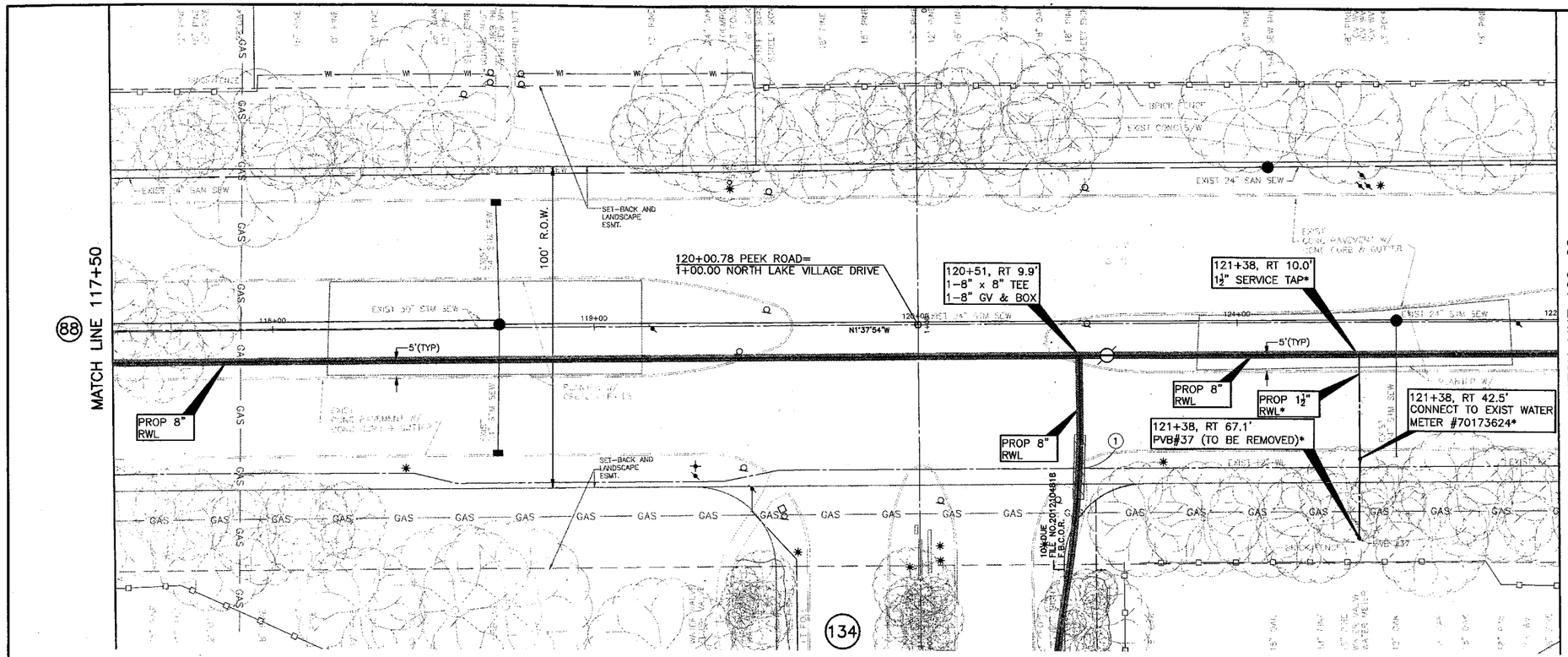
CINCO RANCH RECLAIMED WATER SYSTEM

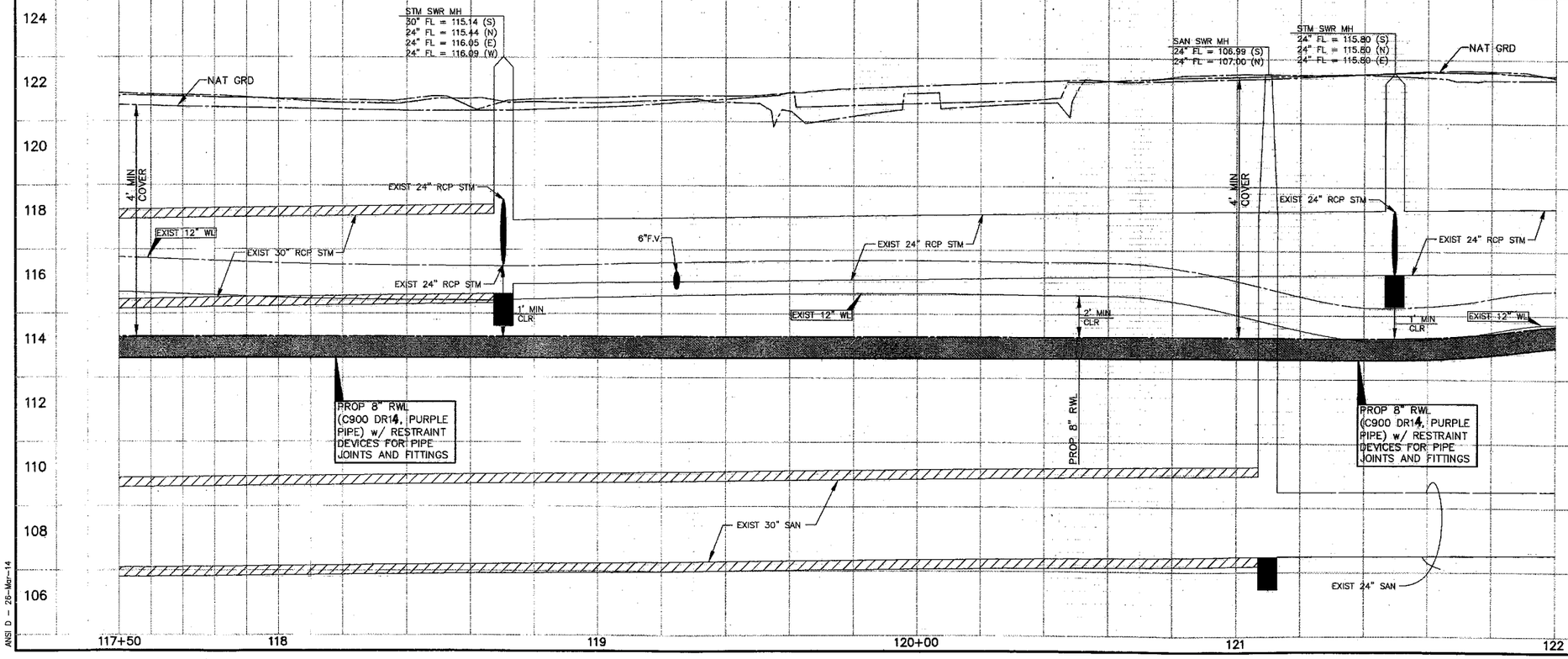
PEEK ROAD (113+00 TO 117+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 88 OF 154

PATH/FILENAME: L:\CIVIL\P&P-PRD\JWS\P&P-PRD.dwg
LAST UPDATE: Tuesday, Nov 20, 2012 at 5:14 PM
PLOT DATE: Tuesday, Nov 20, 2012 at 5:36 PM
ANSI D - 20-Nov-12





CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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NOTE:
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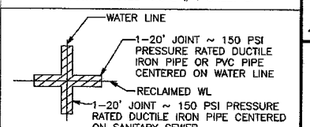
PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED
ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 04-24-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.17.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 89 OF 154

REGISTERED ENGINEERING 52149 CITY DRAWING NUMBER RECORD COPY

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3550

PROJECT NO. 60194669, CONTRACT NO. 1

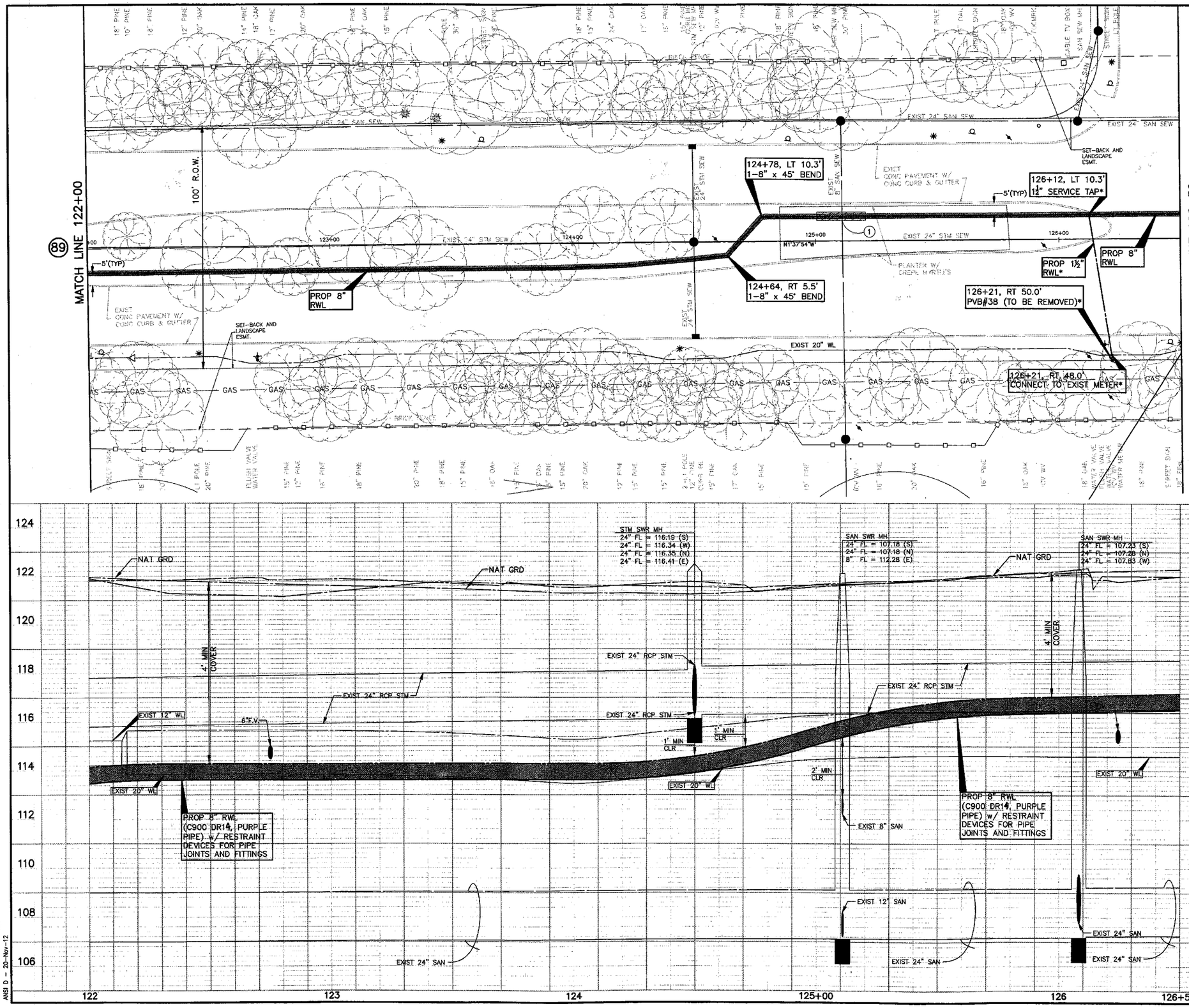
4/14/14
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
PEEK ROAD (117+50 TO 122+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

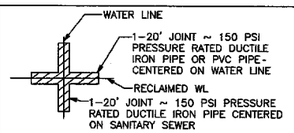
SHEET 89 OF 154

PATH/FILENAME: P:\...\60194669 - CINCO MUD 1 REUSE\DWG\P&P-PRD.DWG
LAST UPDATE: Wednesday, April 16, 2014 4:17:22 PM
PLOT DATE: Monday, April 14, 2014 10:58:18 AM
ANSI D — 26-Mar-14



PEEK ROAD - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-18-13	STORM WATER QUALITY
STORM 4-8-14	FACILITIES
STREET & BRIDGE 4.5.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 90 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

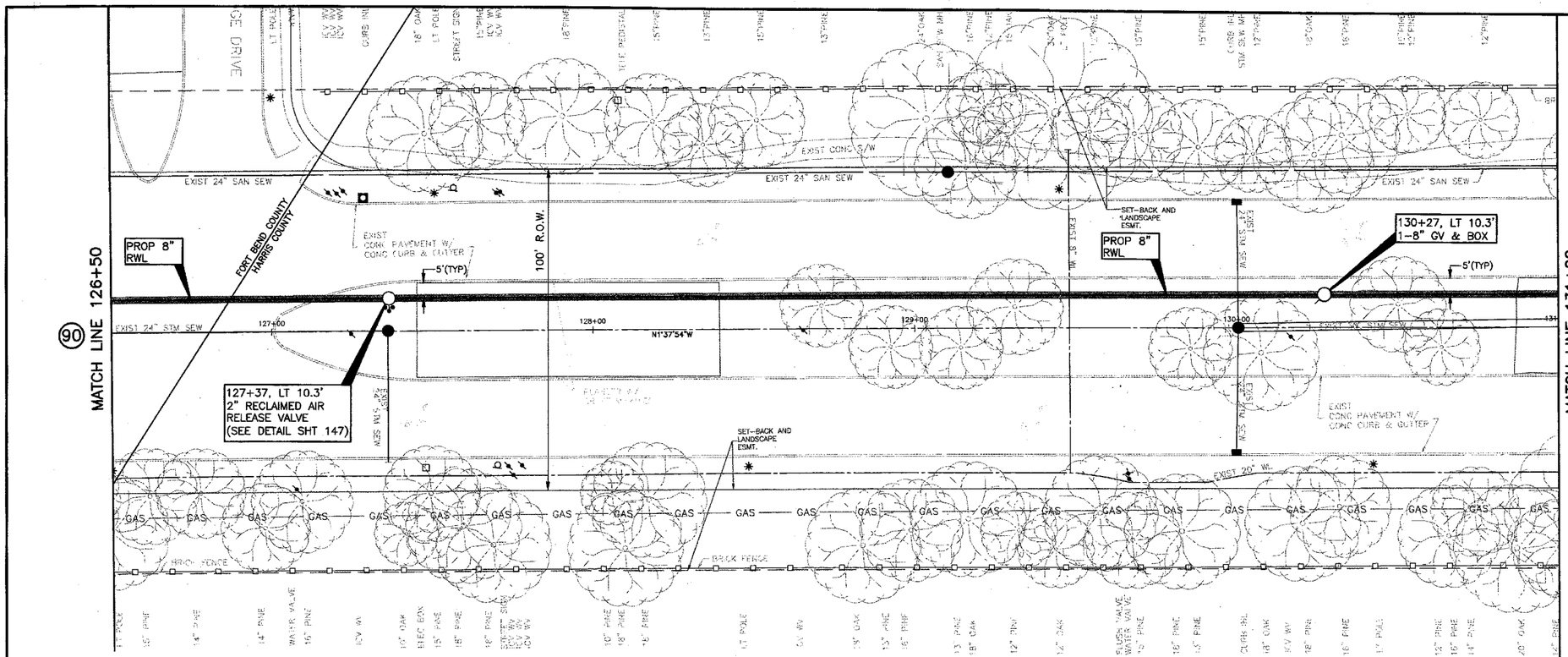
CINCO RANCH RECLAIMED WATER SYSTEM

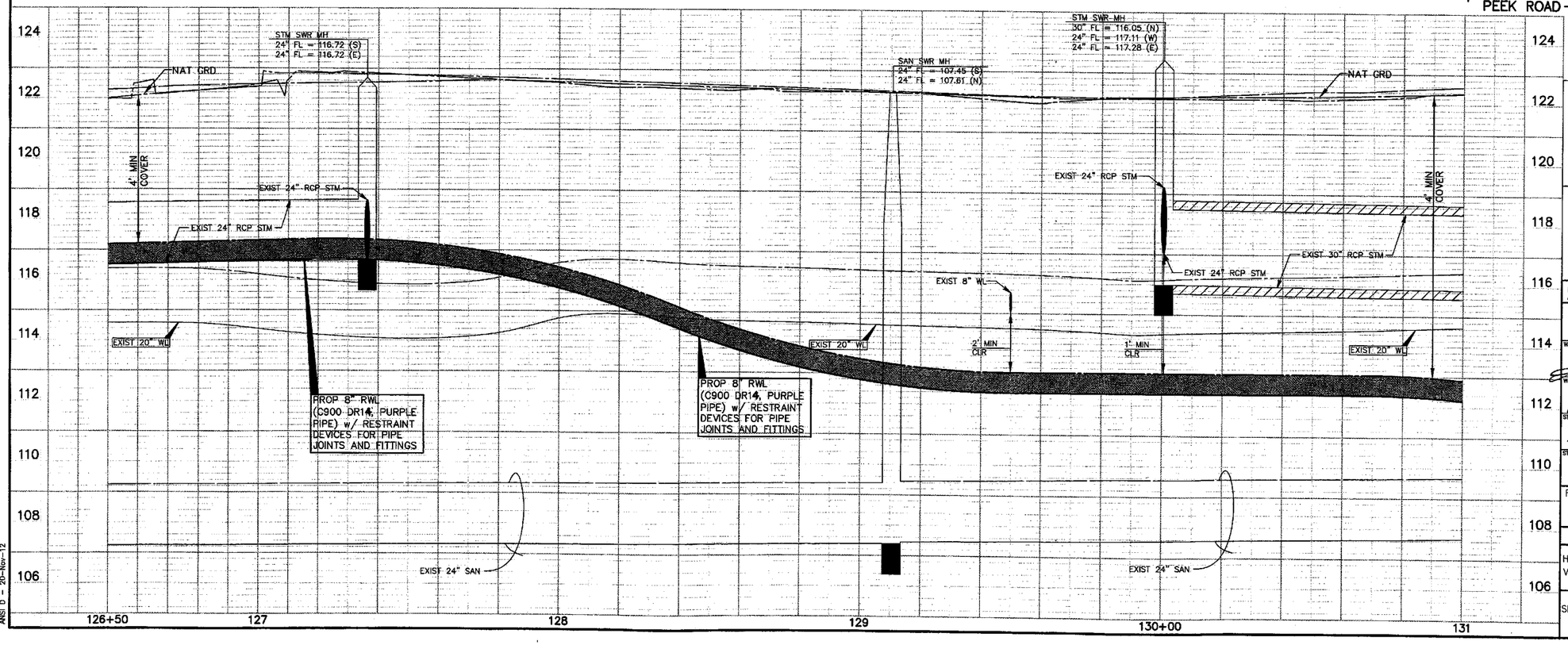
PEEK ROAD (122+00 TO 126+50)

PROJECT NO: 60194669 (WSD)
CAD DWG FILE: P&P-PRD
DESIGNED BY: DE
DRAWN BY: JE
DEPT CHECK:
PROJ CHECK:
DATE: DECEMBER 2012
SCALE: 1" = 20'

SHEET 90 OF 154

PATH/FILENAME: L:\CINCO\60\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 8:25:52 PM
PLOT DATE: Tuesday, Nov 20, 2012 8:25:52 PM
ANSI D - 20-Nov-12





CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

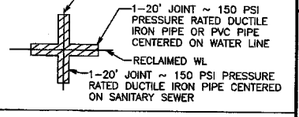
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 91 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

PEEK ROAD (126+50 TO 131+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 91 OF 154

PATH/FILENAME: L:\CINCO\4669\DWG\P&P-PRD.DWG
LAST UPDATE: Tuesday, Nov. 20, 2012 6:15:14 PM
PLOT DATE: Tuesday, Nov. 20, 2012 6:30:20 PM
ANSI D - 20-Nov-12

MATCH LINE 131+00

MATCH LINE 135+50

(91)

(93)

(15)

(1)

N1°37'54"W

PC: 131+43.87

EXIST 24" SAN SEW

EXIST 30" SAN SEW

EXIST 36" STM SEW

EXIST 20" W

EXIST CONC S/W

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

PROP 8" RWL

SET-BACK AND LANDSCAPE ESMT.

100' R.O.W.

PLANTER W/ CREPE MYRTLES

BRICK FENCE

GR FENCE

GAS

EXIST 8" SAN

WATER VALVE

STREET SIGN

L.T. POLE

ELEC. MH

GROUND MH

CABLE MH

CL CURVE DATA
PC= 131+43.87
Δ= 8°37'20"
R= 3000.00'
L= 451.46'
PT= 135+95.33

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

PEEK ROAD-HARRIS

SAN SWR MH
24" FL = 107.91 (S)
24" FL = 107.98 (N)
8" FL = 113.10 (E)

STM SWR MH
36" FL = 115.27 (N)
30" FL = 115.67 (S)
24" FL = 115.82 (E)
24" FL = 115.82 (W)

STM SWR MH
36" FL = 115.03 (N)
36" FL = 115.34 (S)
24" FL = 117.69 (E)
24" FL = 117.74 (W)

SAN SWR MH
24" FL = 108.17 (S)
24" FL = 108.22 (N)

NAT GRD

4' MIN COVER

EXIST 24" RCP STM

EXIST 30" RCP STM

EXIST 36" RCP STM

6"F.V.

EXIST 20" WL

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

1' MIN CLR

2' MIN CLR

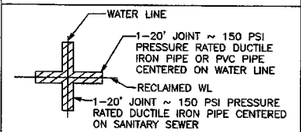
EXIST 8" SAN

EXIST 24" SAN

124
122
120
118
116
114
112
110
108
106

131
132
133
134
135+00
135+50

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
12.8.13	
WASTEWATER	STORM WATER QUALITY
4-8-14	
STORM	FACILITIES
4.15.14	Vacant Acct 9.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 92 OF 154

52149
DRAWING NUMBER

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

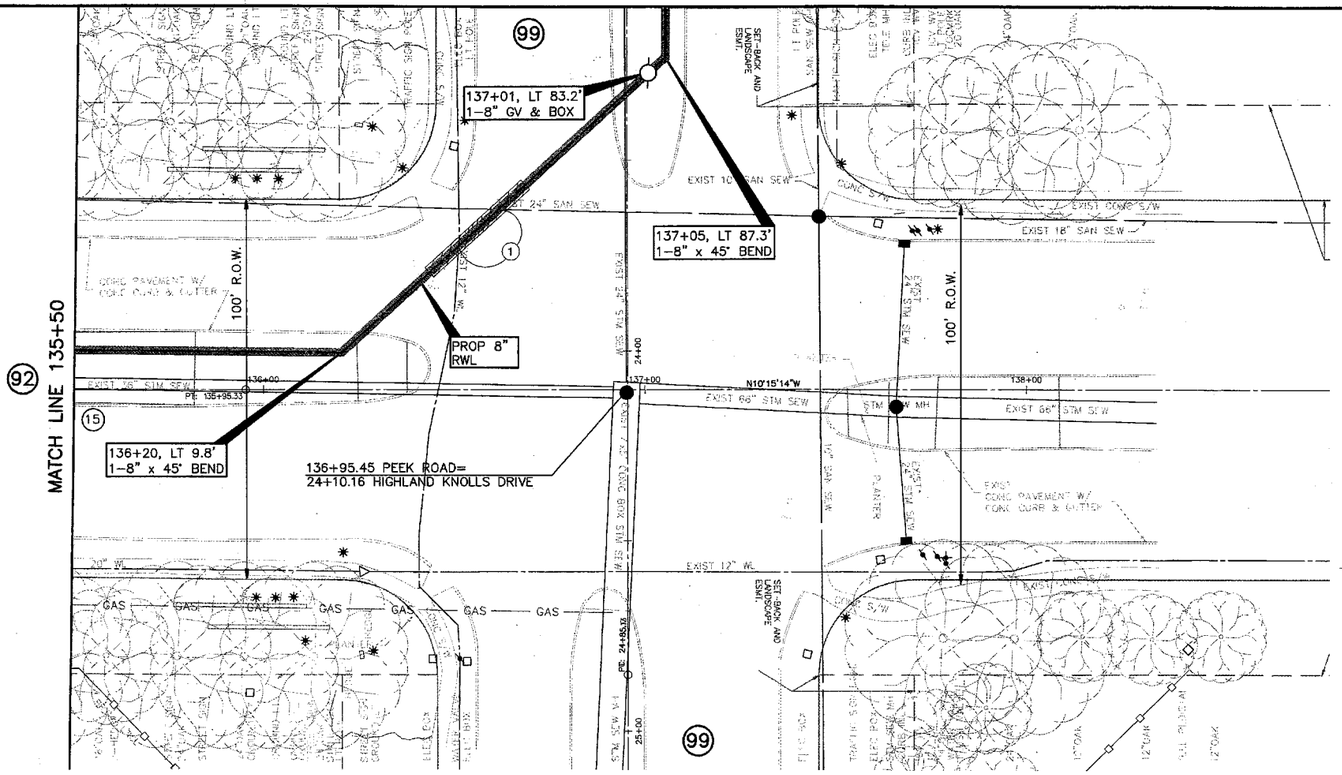
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

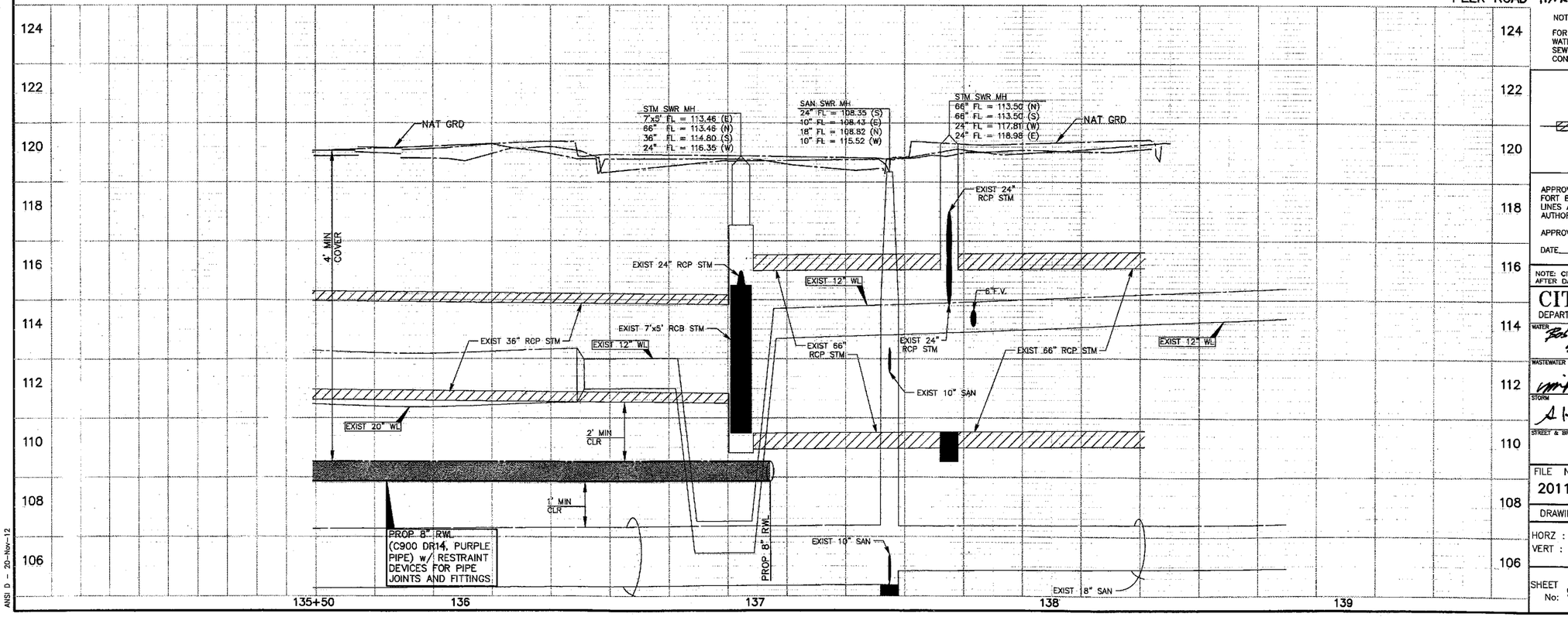
CINCO RANCH RECLAIMED WATER SYSTEM
PEEK ROAD (131+00 TO 135+50)
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRD
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 92 OF 154

PATH/FILENAME: L:\CINCO\P&P-PRD.DWG
LAST UPDATE: Tuesday, November 20, 2012 10:16:16 PM
PLOT DATE: Tuesday, November 20, 2012 6:30:46 PM
ANSI D - 20-Nov-12





CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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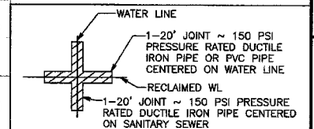
(15)

CL CURVE DATA
PC= 131+43.87
Δ= 8°37'20"
R= 3000.00'
L= 451.46'
PT= 135+95.33

PEEK ROAD-HARRIS

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4.2.14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.1.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 93 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
5/6/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

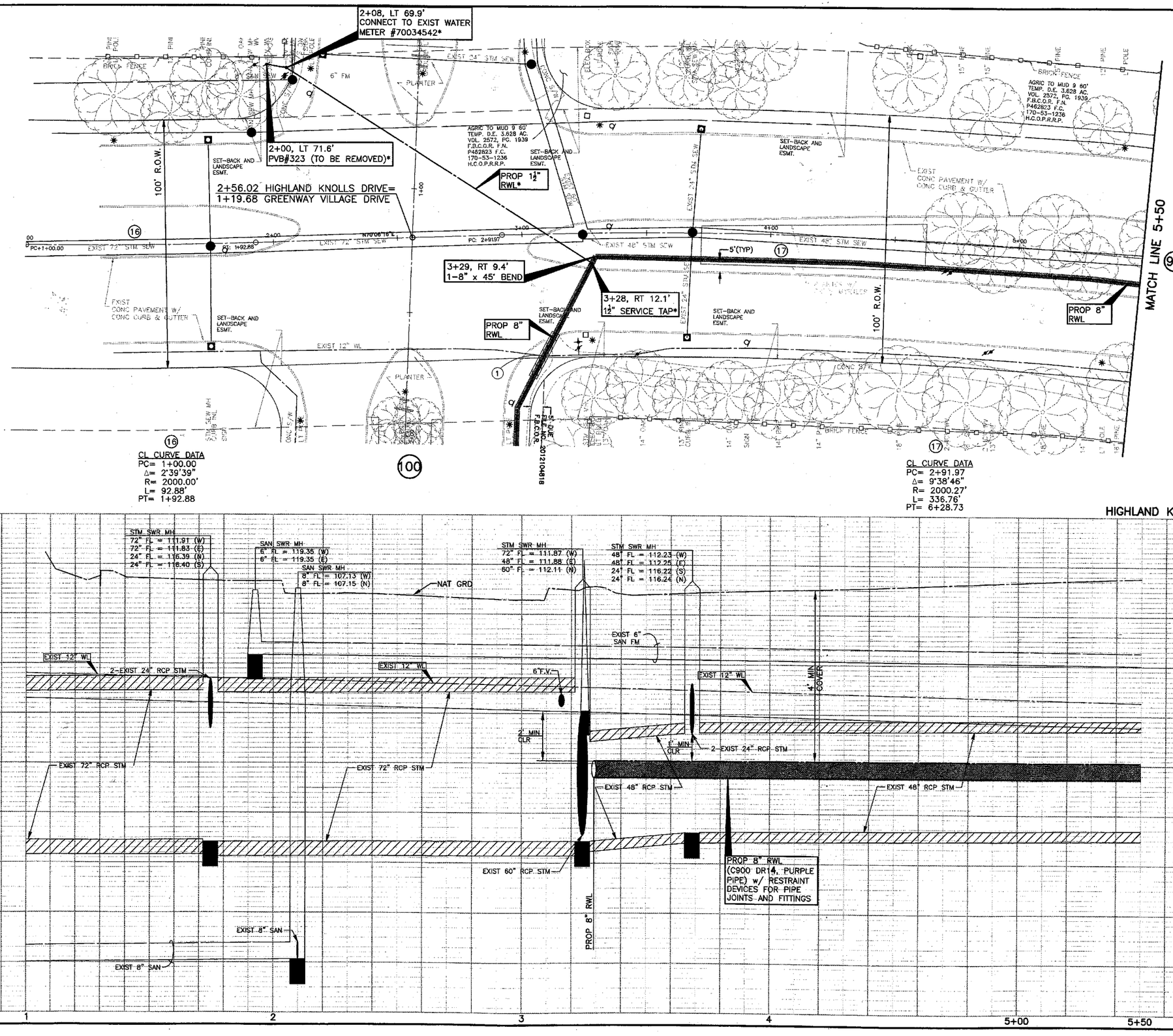
PEEK ROAD (135+50 TO 139+66)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-PRO
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

52149
REGISTERED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

SHEET 93 OF 154

PATH/FILENAME: P:_LE...0194669 - CINCO MUD 1 RELIES\DWG\P&P-PRO.DWG
LAST UPDATE: Tuesday, ...ber 20, 2012 7:35:24 PM
PLOT DATE: Wednesday, ...ber 26, 2014 1:39:38 PM
ANSI D - 20-Nov-12

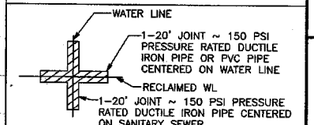


CL CURVE DATA
PC= 1+00.00
Δ= 2°39'39"
R= 2000.00'
L= 92.88'
PT= 1+92.88

CL CURVE DATA
PC= 2+91.97
Δ= 9°38'46"
R= 2000.27'
L= 336.76'
PT= 6+28.73

HIGHLAND KNOLLS DRIVE - FORT BEND

NOTE: ①
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 94 OF 154

52149 REGISTERED PROFESSIONAL ENGINEER

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

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TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

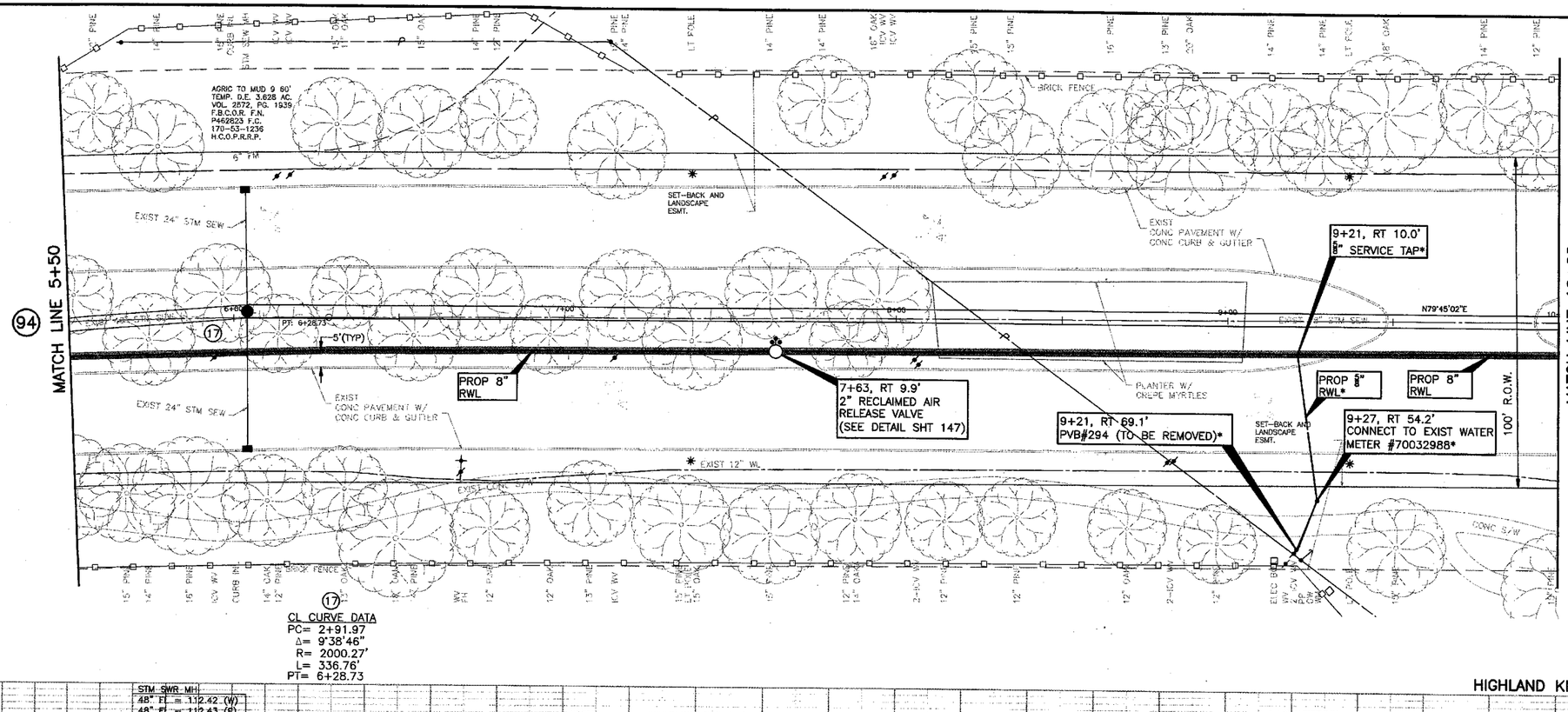
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

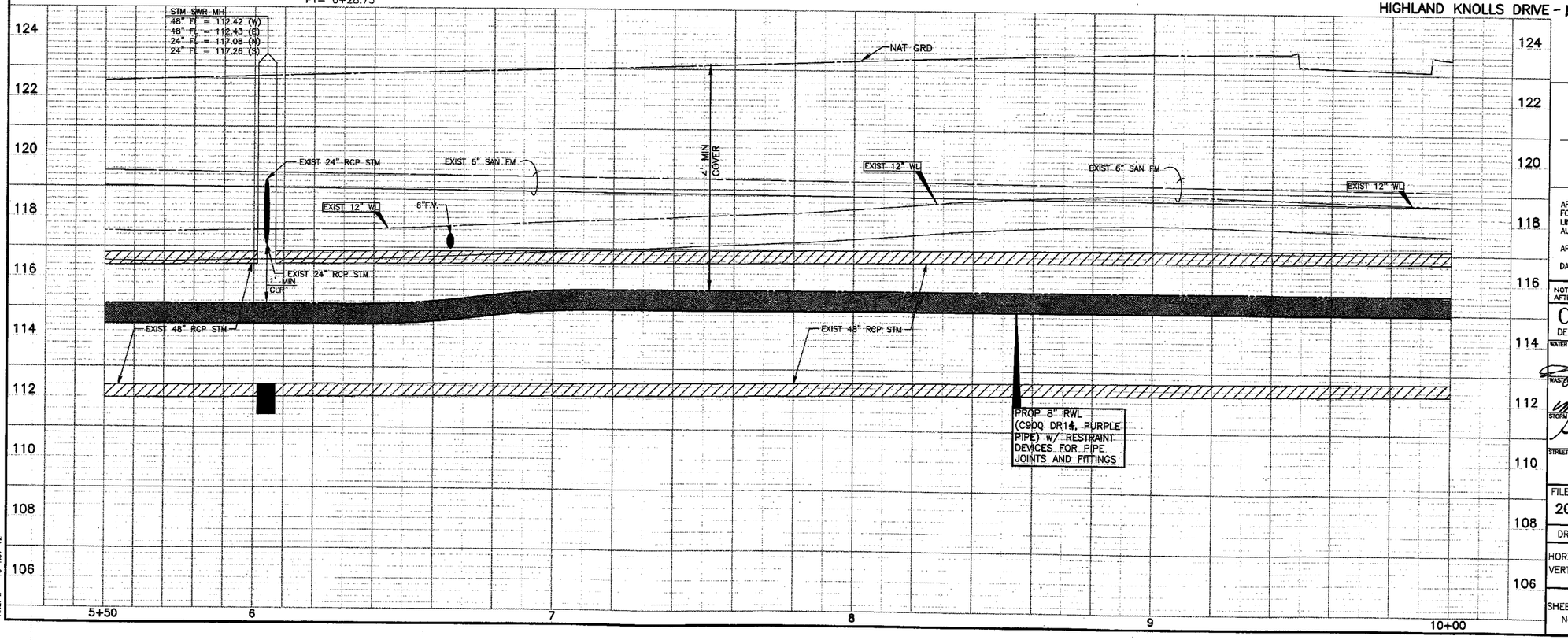
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
HIGHLAND KNOLLS DRIVE (1+00 TO 5+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 94 OF 154

PATH/FILENAME: L:\Cinco\...\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, Nov 19, 2012 4:46:05 PM
PLOT DATE: Monday, Nov 19, 2012 4:50:27 PM
ANSI D - 19-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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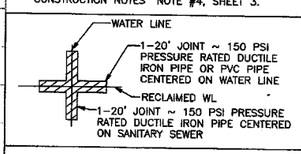

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 95 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

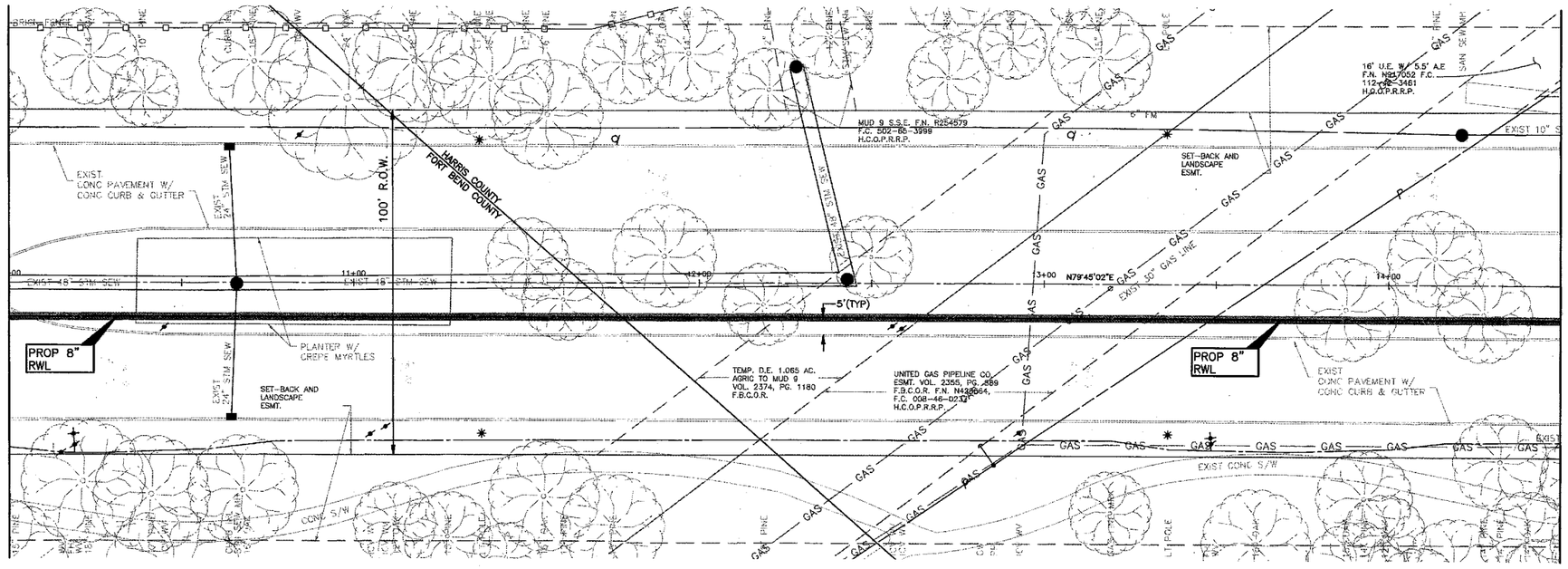
CINCO RANCH RECLAIMED WATER SYSTEM

HIGHLAND KNOLLS DRIVE (5+50 TO 10+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 95 OF 154

PATH/FILENAME: L:\CIVIL\...\9_DWG\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, November 19, 2012 4:46:08 PM
PLOT DATE: Monday, November 19, 2012 4:51:02 PM
ANSI D - 19-Nov-12



SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

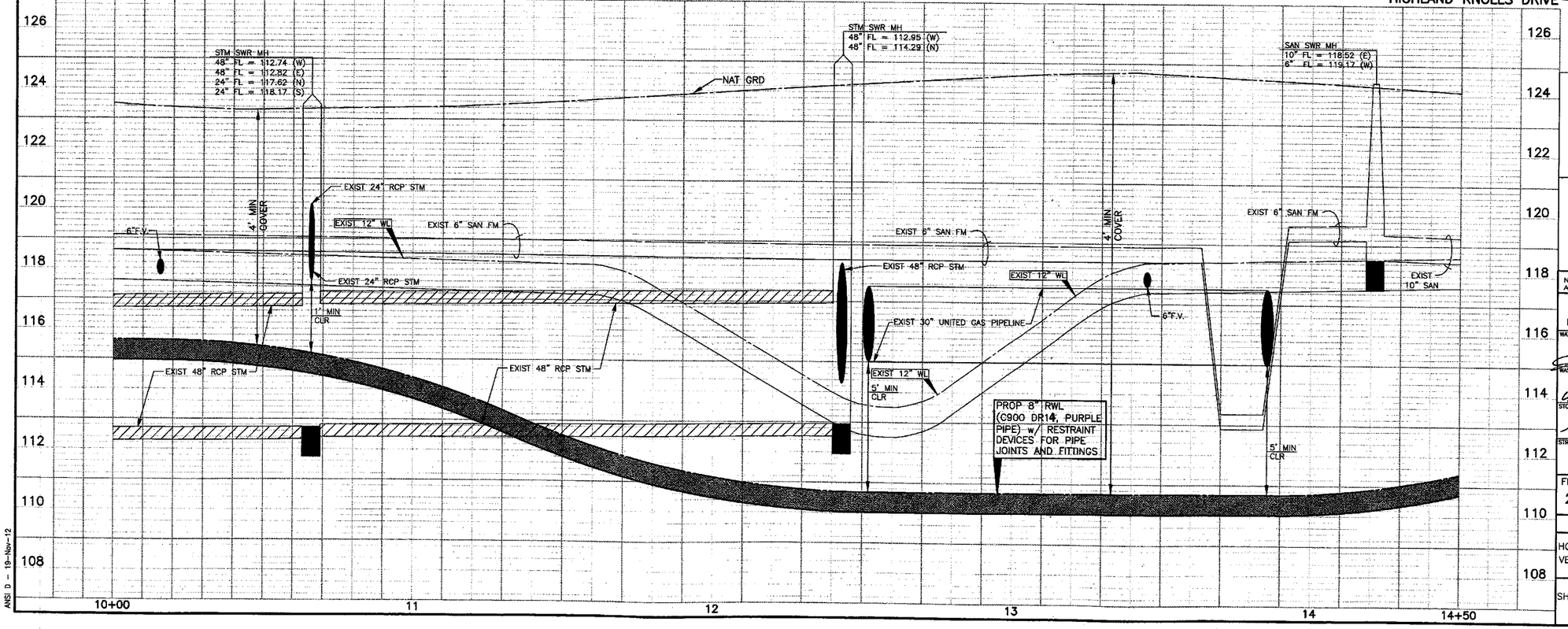
CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

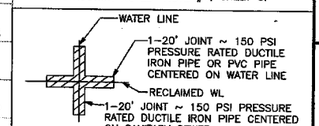
CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR UNITED GAS PIPELINE CO. AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

HIGHLAND KNOLLS DRIVE - HARRIS



NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 96 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

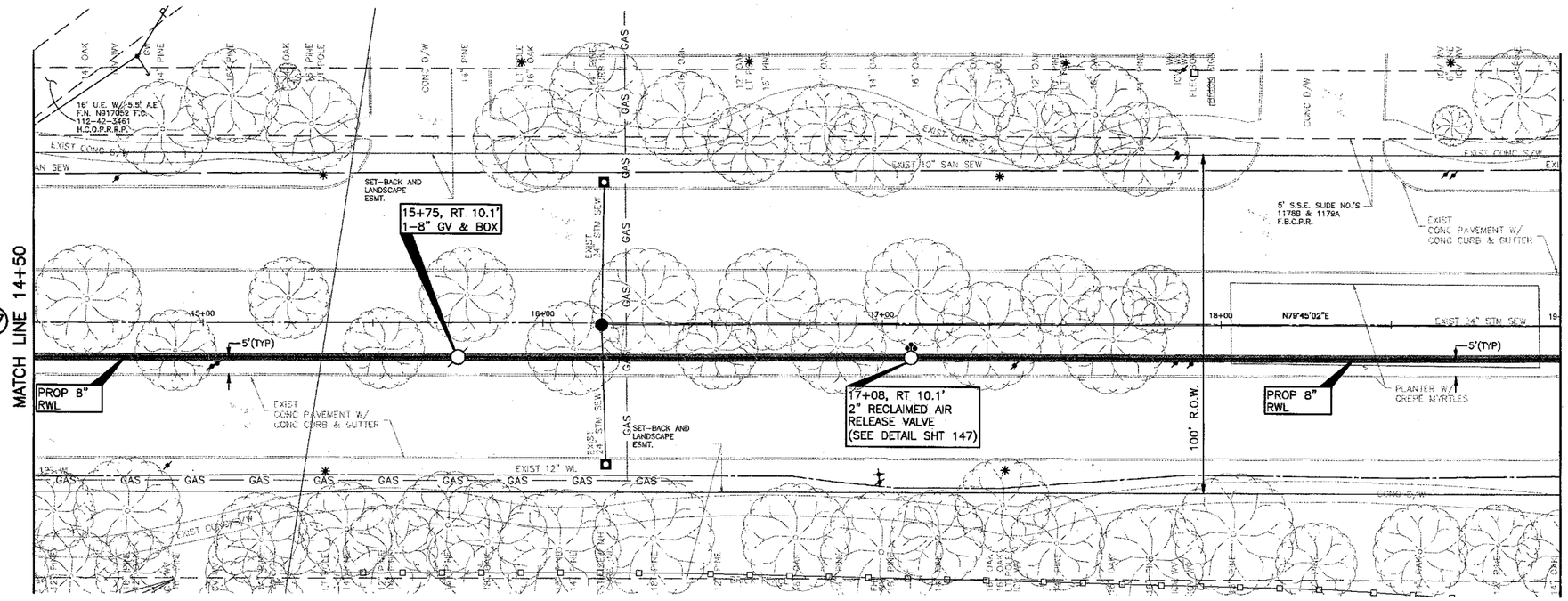
CINCO RANCH RECLAIMED WATER SYSTEM

HIGHLAND KNOLLS DRIVE (10+00 TO 14+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 96 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, ... 9, 2012 4:46:08 PM
PLOT DATE: Monday, Nov... 4, 2012 4:51:37 PM
ANSI D - 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

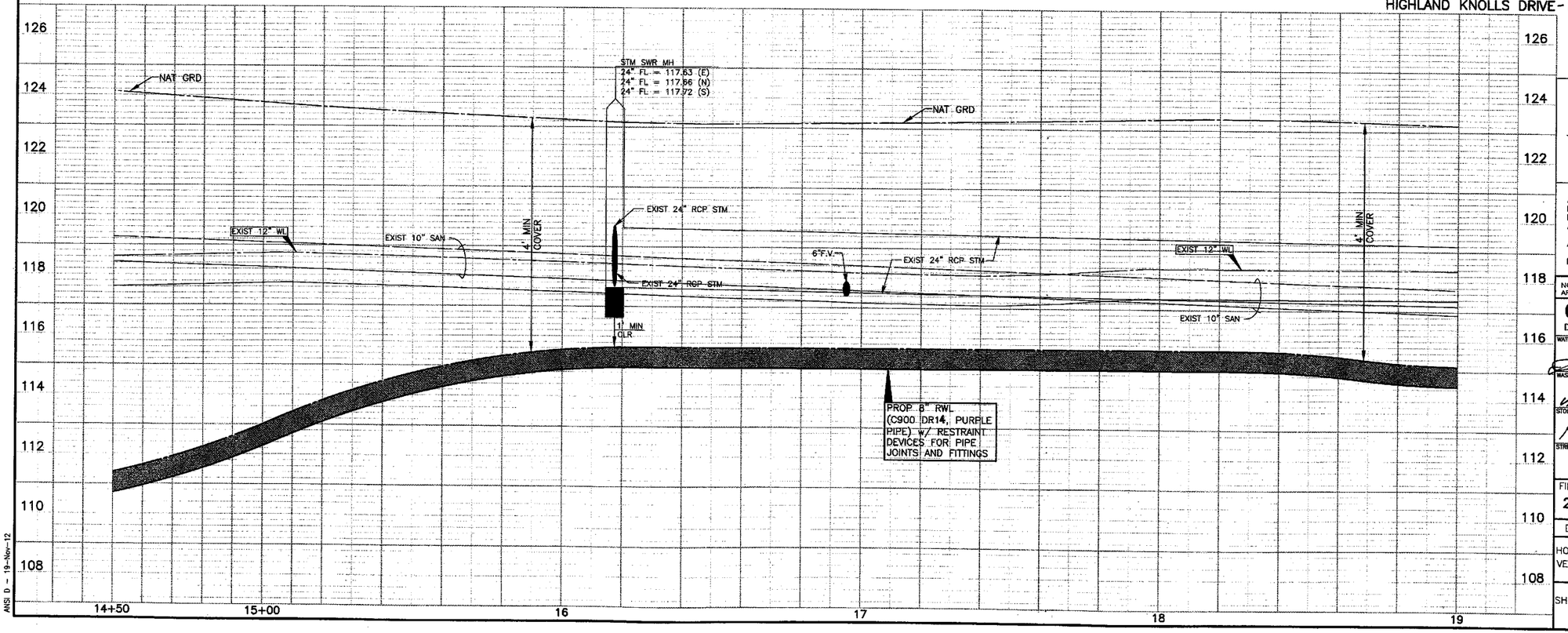
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

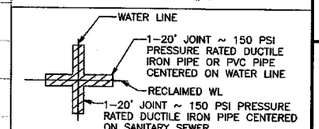
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

HIGHLAND KNOLLS DRIVE - HARRIS



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION AS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-2-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 97 OF 154

52149
C.I.Y. DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

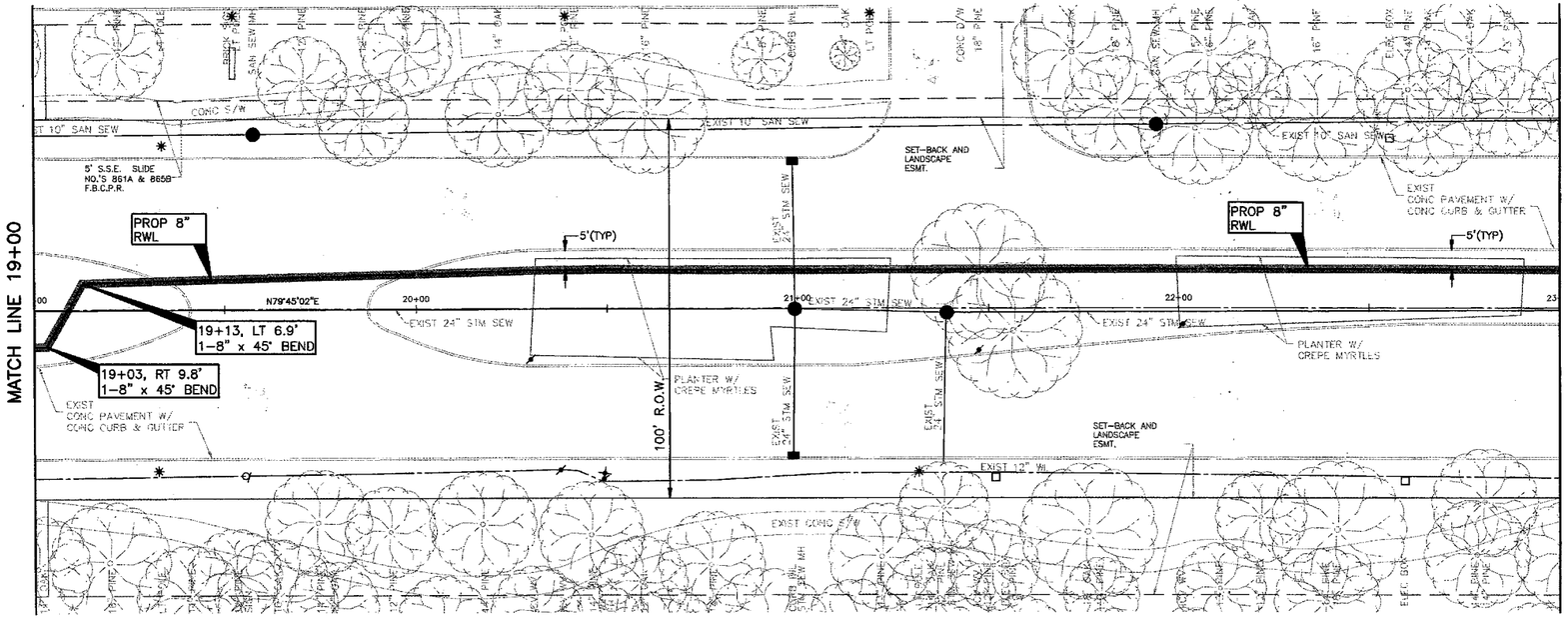
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

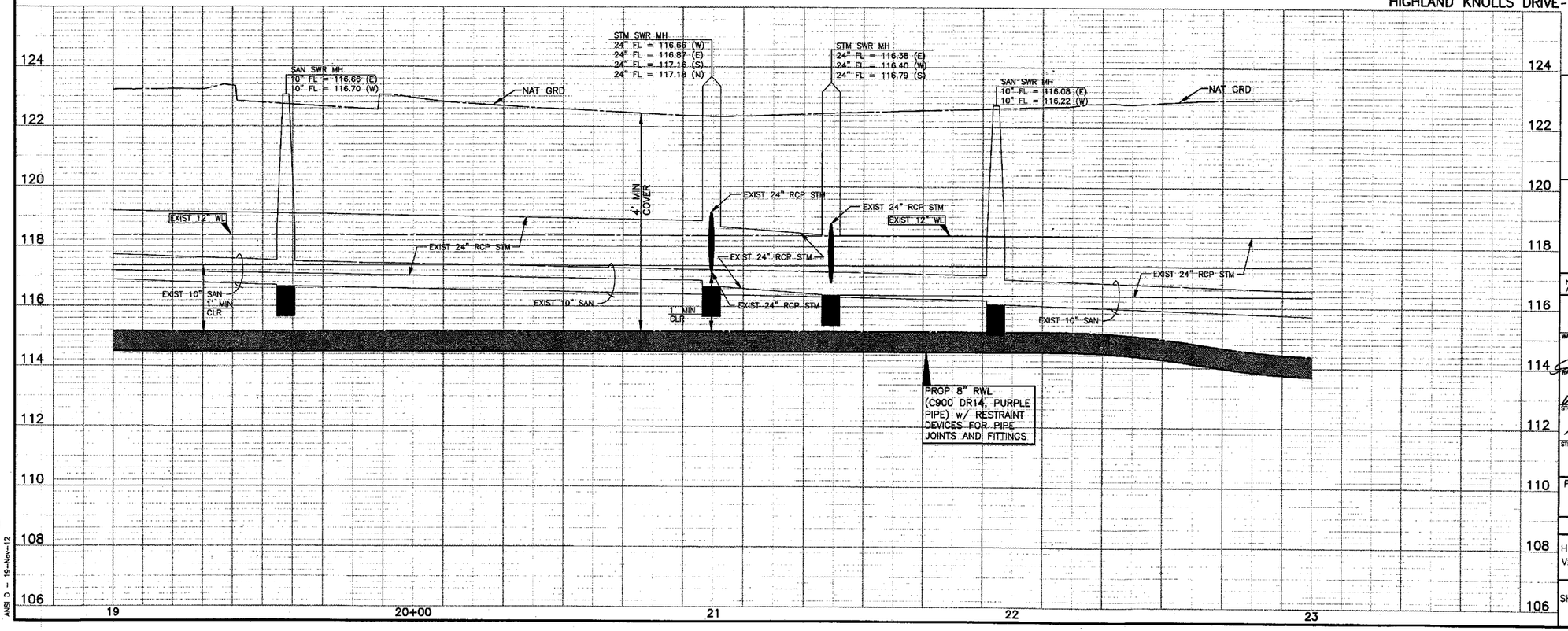
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
HIGHLAND KNOLLS DRIVE (14+50 TO 19+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 97 OF 154

PATH/FILENAME: L:\DWG\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, Nov. 19, 2012 4:45:08 PM
PLOT DATE: Monday, Nov. 19, 2012 4:52:11 PM
ANSI D - 19-Nov-12





CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
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- PRESSURE VACUUM BREAKER (PVB)
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- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: (1)
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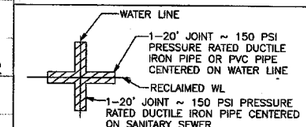


APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 98 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

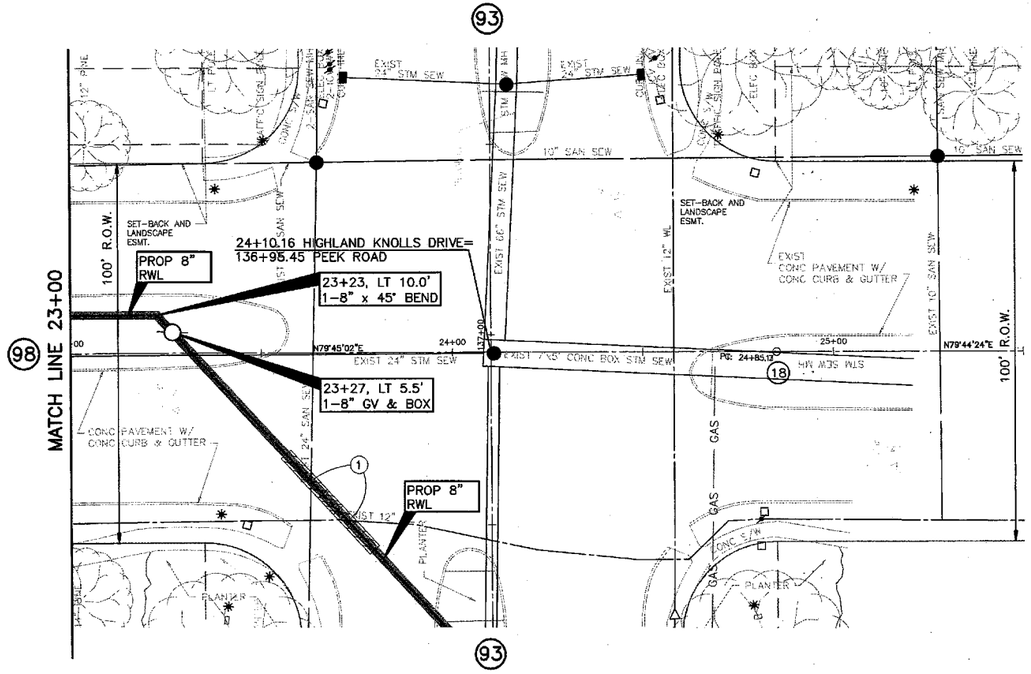
CINCO RANCH RECLAIMED WATER SYSTEM

HIGHLAND KNOLLS DRIVE (19+00 TO 23+00)

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 98 OF 154

PATH/FILENAME: L:\(DWG'S)\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, N[illegible], 2012 4:46:08 PM
PLOT DATE: Monday, Nov[illegible], 2012 4:22:47 PM
ANSI D - 19-Nov-12



(18)

CL CURVE DATA
PC= 24+85.13
Δ= 0°00'38"
R= 200.00'
L= 0.04'
PT= 24+85.17

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

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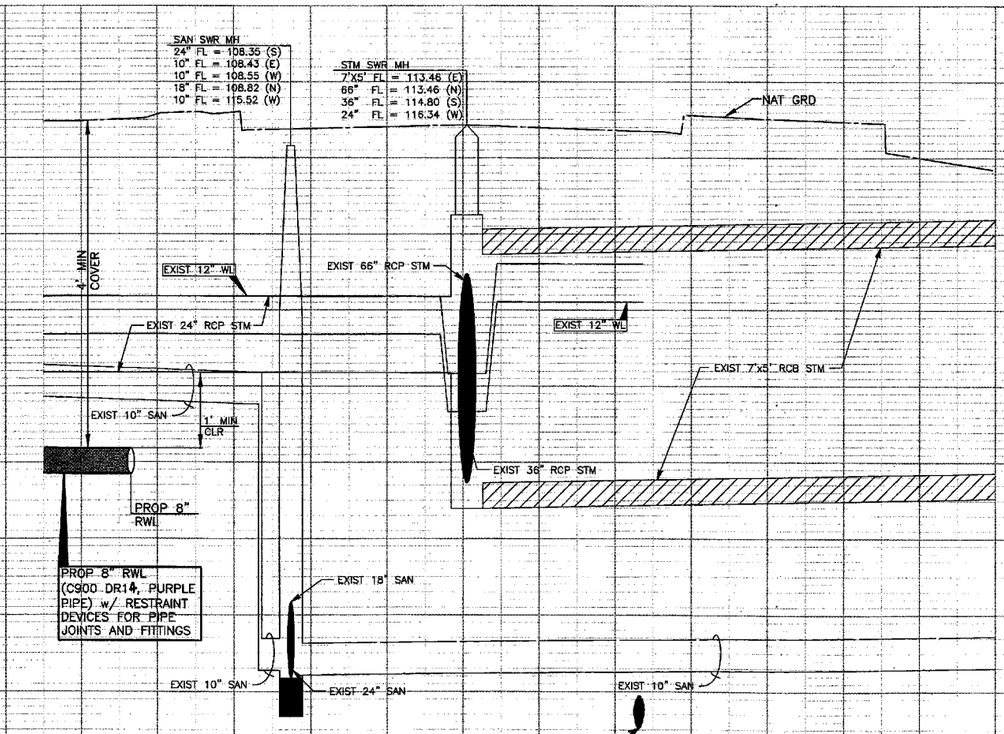
HIGHLAND KNOLLS DRIVE - HARRIS



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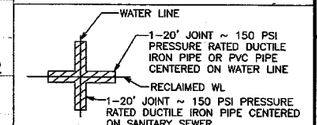

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-15	STORM WATER QUALITY
STORM A Lilly 4.15.14	FACILITIES Jawad Hadi 4.2.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 99 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

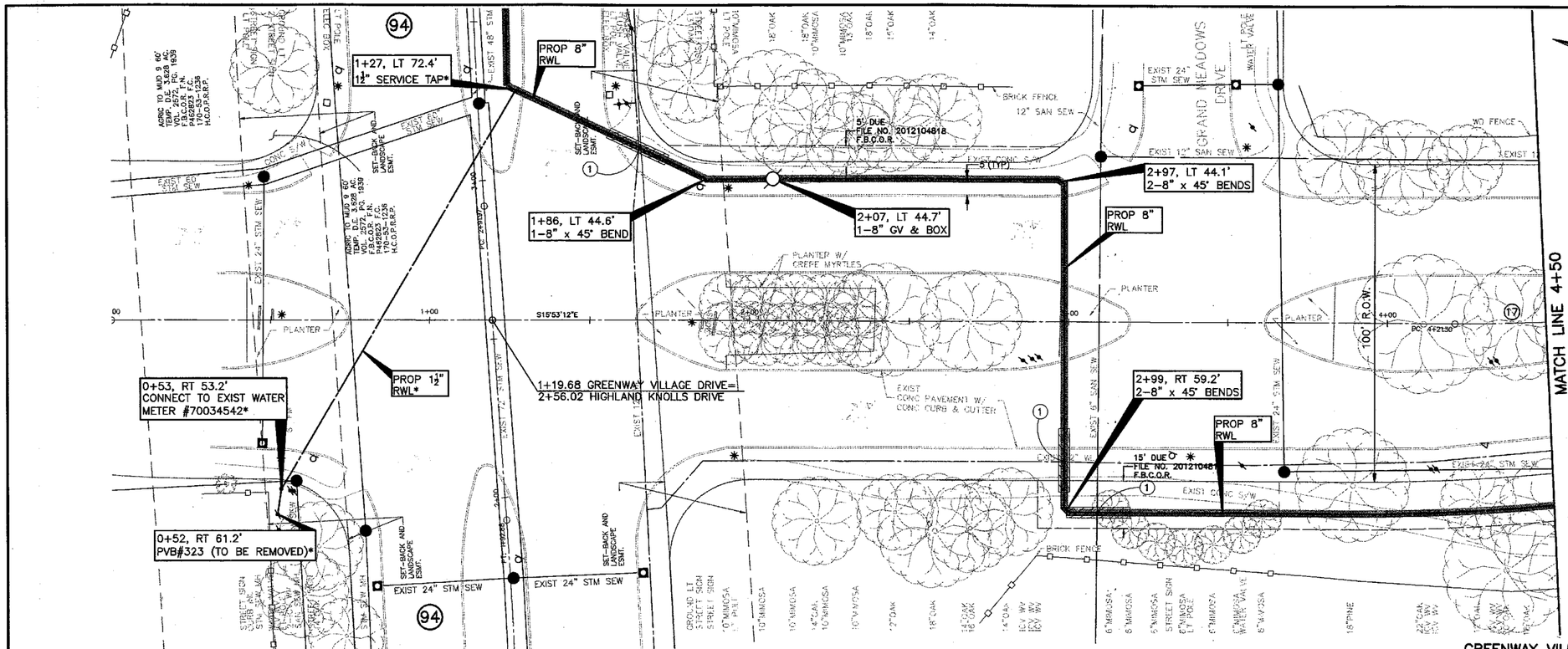
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM
HIGHLAND KNOLLS DRIVE (23+00 TO 25+50)
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-HIGHLAND KNOLLS
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 99 OF 154

PATH/FILENAME: L:\CIVIL\...\P&P-HIGHLAND KNOLLS.DWG
LAST UPDATE: Monday, ...9, 2012 4:46:08 PM
PLOT DATE: Monday, Nove...19, 2012 4:53:22 PM
ANSI D - 19-Nov-12



CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:
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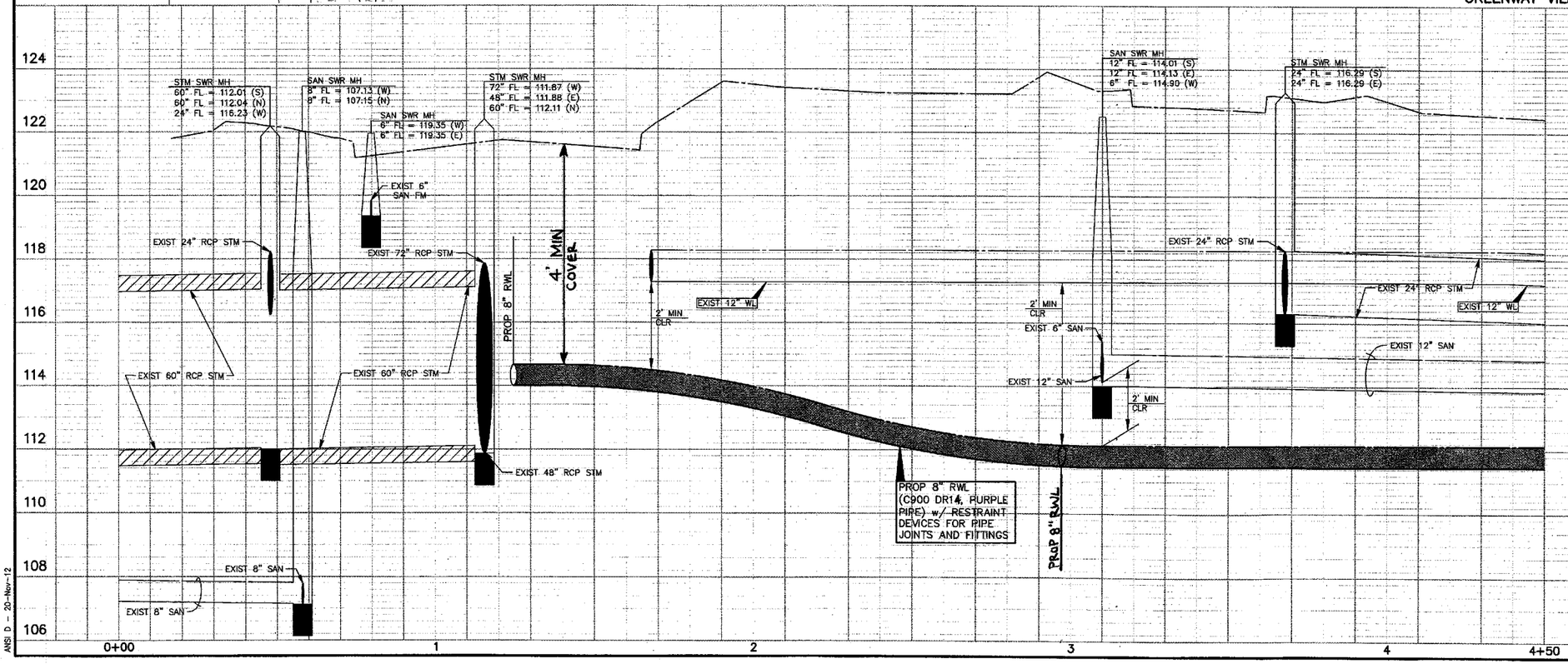
(17) CL CURVE DATA
PC= 4+21.30
= 31°17'54"
R= 600.00'
L= 327.75'
PT= 7+49.05

GREENWAY VILLAGE DRIVE – FORT BEND



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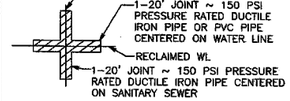

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 9.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011–1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2

52149 (C.I.Y. DRAWING NUMBER)

SHEET No: 100 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
GREENWAY VILLAGE DRIVE (0+00 TO 4+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 100 OF 154

PATH/FILENAME: L:\CIVIL\P&P–GRNWAY.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:06:38 PM
PLOT DATE: Tuesday, November 20, 2012 12:16:59 PM
ANSI D – 20–Nov–12

SEE SHEET 143 FOR PIPELINE APPROVALS

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR GULF SOUTH PIPELINE COMPANY AS SHOWN ON SHEET 03 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

MATCH LINE 4+50 (100)

MATCH LINE 9+00 (102)

PROP 8" RWL

PROP 8" RWL

15' DUE FILE NO. 2012104818 F.B.C.O.R.

15' DUE FILE NO. 2012104813 F.B.C.O.R.

15' DUE FILE NO. 2012104816 F.B.C.O.R.

AGRIC TO MUD 9 15' & 20' D.E. 0.666 AC. VOL. 2322, PG. 2054 F.B.C.O.R.

EXIST 12" SAN SEW

EXIST 6" SAN SEW

EXIST 24" STM SEW

EXIST 12" WL

EXIST 4" STM SEW

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

WD FENCE

WOOD FENCE

CHAIN LINK FENCE

FAIRBRANCH DRIVE

CINCO RANCH RESIDENTIAL PROP

GREENWAY VILLAGE DRIVE - FORT BEND

PT= 7+49.05 S47°11'05"E

40' UNITED PIPELINE SYSTEM EASEMENT RELEASE & DEDICATION No. 809 VOL. 0.A. 1.F. No. 1437 F.C. 009.187 H.C.D.R.P.R.

EXIST 30" GAS LINE

EXIST 30" UNITED GAS PIPELINE

PIPELINE MARKER

60' R.O.W.

9' MIN CLR

5' (TYP)

EXIST CONC S/W

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST 12" WL

EXIST 12" SAN

EXIST 24" RCP STM

EXIST 6" SAN

EXIST 24" STM SEW

EXIST 12" STM SEW

EXIST 12" WL

EXIST 12" SAN

EXIST 30" UNITED GAS PIPELINE

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

4' MIN COVER

1' MIN CLR

2' MIN CLR

5' MIN CLR

STM SWR MH
24" FL = 115.92 (S)
24" FL = 115.99 (N)

STM SWR MH
12" FL = 113.62 (S)
12" FL = 113.73 (N)
6" FL = 117.56 (E)

STM SWR INL
24" FL = 116.81 (W)
24" FL = 116.82 (S)
24" FL = 116.89 (E)

STM SWR MH
24" FL = 115.11 (N)
24" FL = 115.53 (W)

SAN SWR MH
12" FL = 113.20 (S)
12" FL = 113.25 (W)
12" FL = 113.28 (N)
6" FL = 117.38 (E)

STM SWR INL
24" FL = 117.10 (N)
24" FL = 118.01 (W)

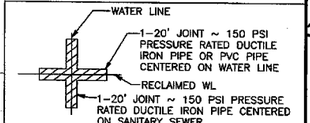
SAN SWR MH
12" FL = 113.02 (S)
12" FL = 113.08 (N)

124 122 120 118 116 114 112 110 108 106

4+50 5+00 6 7 8 9

(17) CL CURVE DATA
PC= 4+21.30
Δ= 31°17'54"
R= 600.00'
L= 327.75'
PT= 7+49.05

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12/13/13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	Jawad Ahmed 4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2

SHEET No: 101 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (4+50 TO 9+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 101 OF 154

PATH/FILENAME: L:\CINCO 9\DWG\P&P-GRNWAY.DWG
LAST UPDATED: Tuesday, 20, 2012 12:15:35 PM
PLOT DATE: Tuesday, Nov 20, 2012 12:17:35 PM
ANSI D - 20-Nov-12

MATCH LINE 9+00

(101)

(103)

MATCH LINE 13+50

PROP 8" RWL

9+53, RT 59.4'
PVB#94 (TO BE REMOVED)*

15' DUE
FILE NO. 20121047?6
F.B.C.O.R.

PROP 1½" RWL

9+56, RT 38.7'
1½"SERVICE TAP*

9+51, RT 24.5'
CONNECT TO EXIST WATER METER #70081232*

20' DUE
FILE NO. 20121047?6
F.B.C.O.R.

60' R.O.W.

S47°11'05"E

11+83, RT 41.9'
1-8" GV & BOX

PROP 8" RWL

20' DUE
FILE NO. 20121048?3
F.B.C.O.R.

GREENWAY VILLAGE DRIVE

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

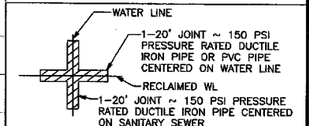
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER FORT BEND CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 102 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (9+00 TO 13+50)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 102 OF 154

STM SWR MH
24" FL = 114.64 (E)
24" FL = 116.46 (N)
12" FL = 117.33 (E)
12" FL = 117.37 (S)

SAN SWR MH
12" FL = 112.58 (S)
12" FL = 112.64 (N)

STM SWR INL
12" FL = 119.68 (N)

SAN SWR MH
12" FL = 112.22 (W)
12" FL = 112.22 (N)

STM SWR MH
66" FL = 110.33 (S)
60" FL = 110.60 (N)
24" FL = 113.50 (W)
24" FL = 116.02 (E)

STM SWR INL
12" FL = 118.30 (E)

EXIST 12" PVC STM

EXIST 12" PVC STM

4' MIN COVER

1' MIN CLR

EXIST 24" RCP STM

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

EXIST 12" WL

EXIST 12" SAN

EXIST 24" RCP STM

EXIST 66" RCP STM

EXIST 12" WL

EXIST 24" RCP STM

EXIST 12" SAN

2' MIN CLR

EXIST 60" RCP STM

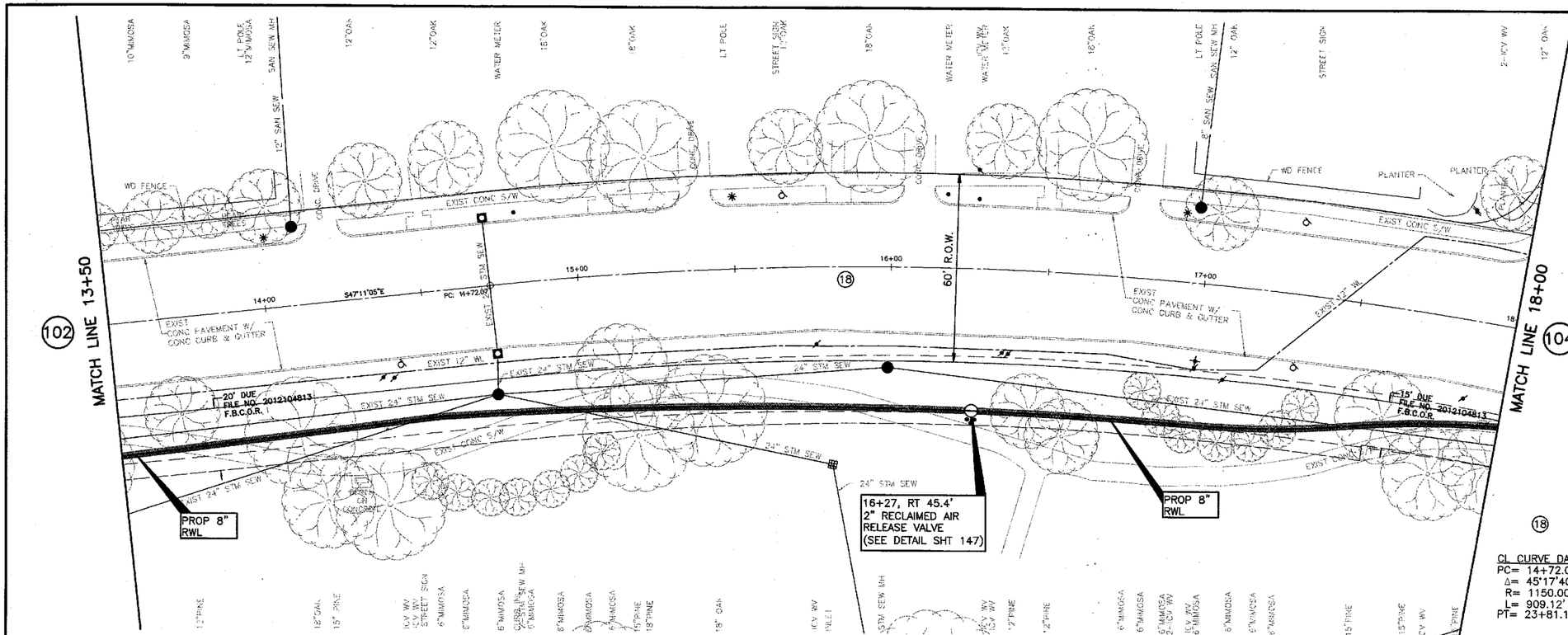
1' MIN CLR

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

124 122 120 118 116 114 112 110 108 106

9 10+00 11 12 13 13+50

PATH/FILENAME: L:\CIVIL\90\DWG\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 12:08:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 12:17:58 PM
ANSI D - 20-Nov-12



CL CURVE DATA
PC= 14+72.07
Δ= 45°17'40"
R= 1150.00'
L= 909.12'
PT= 23+81.19

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

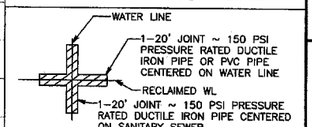
CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED: ASSISTANT TO THE COUNTY ENGINEER
DATE: 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 11-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jared Hunt 4.2.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

52149 CITY DRAWING NUMBER

SHEET No: 103 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

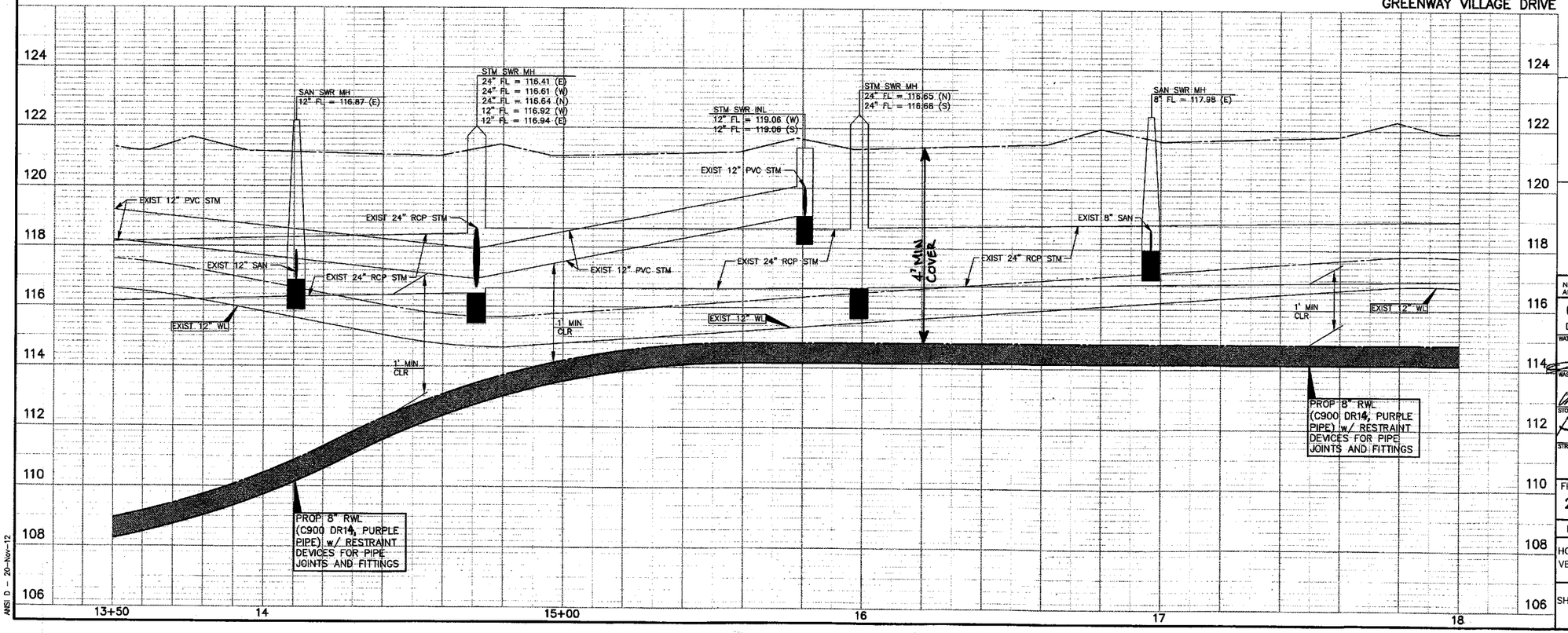
PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

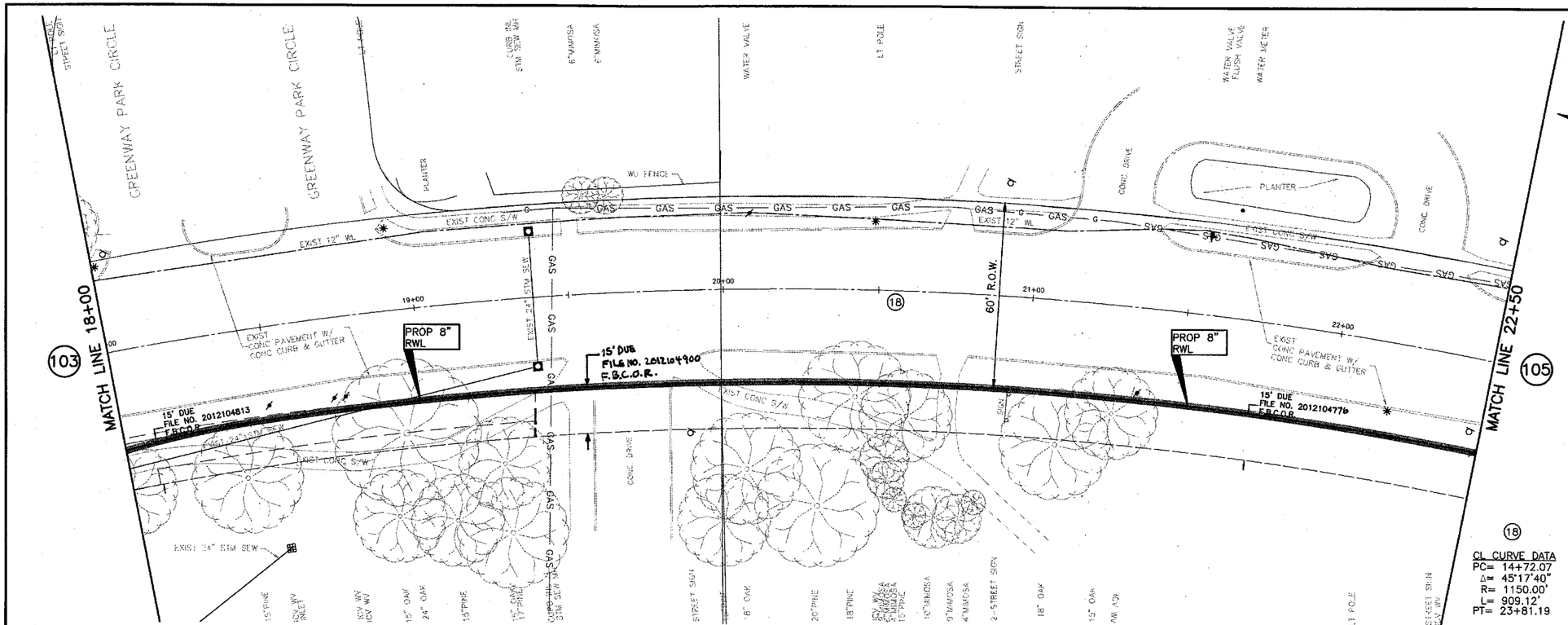
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
GREENWAY VILLAGE DRIVE (13+50 TO 18+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 103 OF 154



PATH/FILENAME: L:\CINCO\...\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, Nov 0, 2012 12:08:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 12:25:56 PM
ANSI D - 20-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

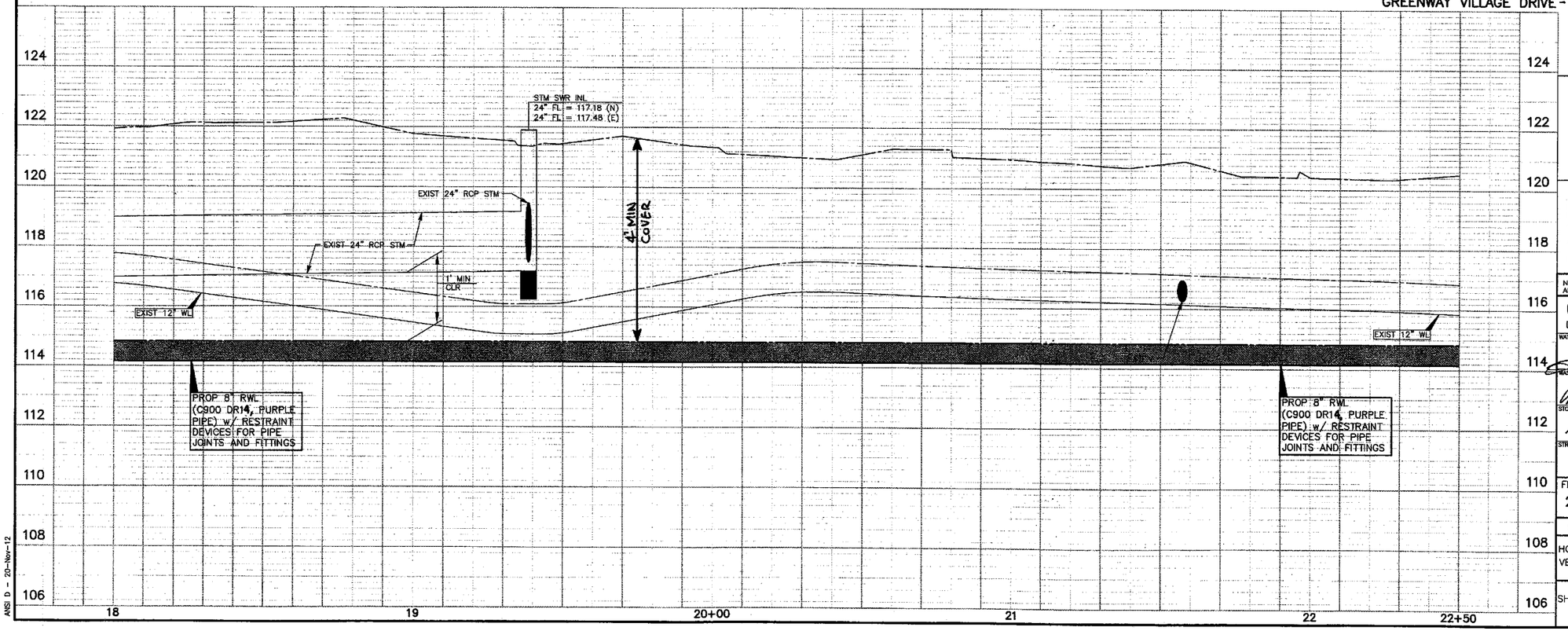
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

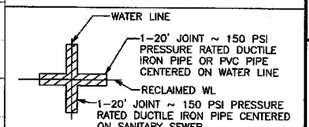
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

(18)
CL CURVE DATA
PC= 14+72.07
Δ= 45°17'40"
R= 1150.00'
L= 909.12'
PT= 23+81.19

GREENWAY VILLAGE DRIVE - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jawad Ahmed 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

52149
CITY DRAWING NUMBER

SHEET No: 104 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TX 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

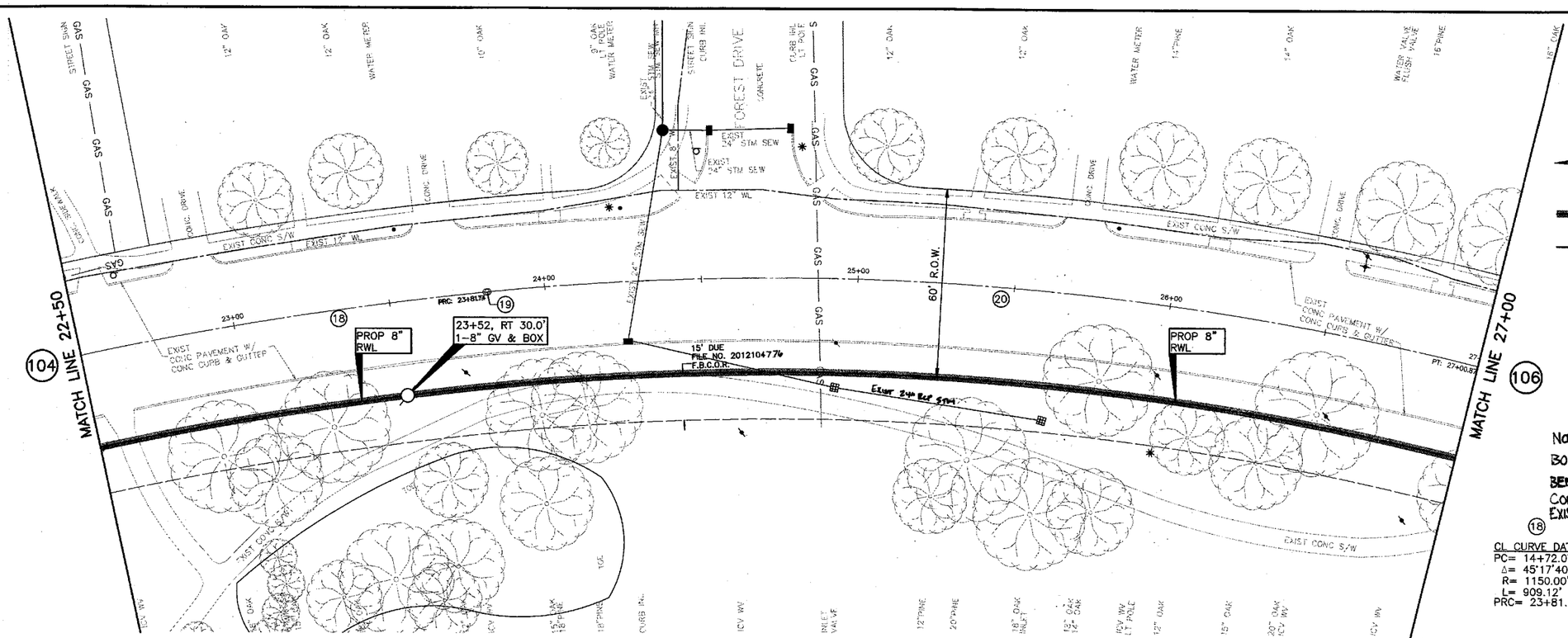
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
GREENWAY VILLAGE DRIVE (18+00 TO 22+50)

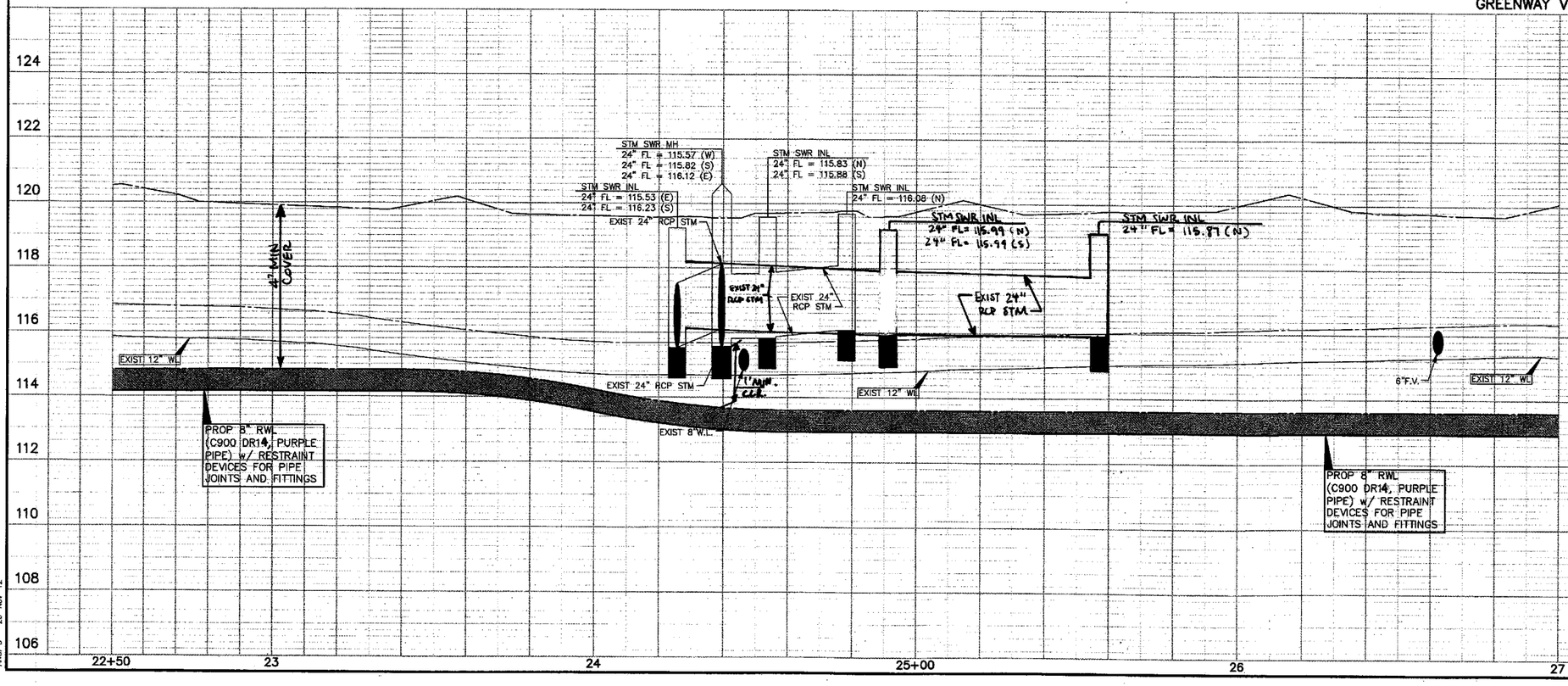
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 104 OF 154

PATH/FILENAME: L:\CINCO_\DWG P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, N 2012 12:26:35 PM
PLOT DATE: Tuesday, Nov 2012 12:18:45 PM
ANSI D - 20-Nov-12



GREENWAY VILLAGE DRIVE - FORT BEND



CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

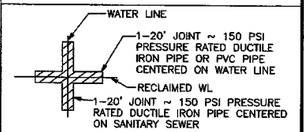
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROPOSED BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROPOSED RWL.

(18) CL CURVE DATA	(19) CL CURVE DATA	(20) CL CURVE DATA
PC= 14+72.07	PRC= 23+81.19	PRC= 23+81.74
Δ= 45°17'40"	Δ= 0°01'40"	Δ= 19°46'01"
R= 1150.00'	R= 1150.01'	R= 925.00'
L= 909.12'	L= 0.56'	L= 319.12'
PRC= 23+81.19	PRC= 23+81.74	PT= 27+00.87

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Javed Ahmed 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 105 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194569, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/26/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (22+50 TO 27+00)

PROJECT NO:	60194569 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 105 OF 154

PATH/FILENAME: L:\CINCO\...\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 12:08:36 PM
PLOT DATE: Tuesday, Nov 20, 2012 12:19:09 PM
ANSI D — 20-Nov-12

MATCH LINE 27+00

(105)

(20)

MATCH LINE 31+50

(107)

30" SHELL PIPELINE CORP. ESMT. PARCEL 2 VOL. 1903, PG. 1067 F.B.C.O.R.

EXIST CONC PAVEMENT W/ CONC CURB & GUTTER

EXIST CONC S/W

EXIST 12" W

60' R.O.W.

15' DUE FILE NO. 2012104776 F.B.C.O.R.

15' DUE FILE NO. 2012104900 F.B.C.O.R.

15' DUE FILE NO. 2012104813 F.B.C.O.R.

PROP 8" RWL

TEPPCO PIPELINE MARKER

EXIST 10" CRUDE LINE

EXIST 6" GAS LINE

31+31, RT 30.0'
1-8" GV & BOX

EXIST 24" STM SEW

EXIST 24" STM S/W

CONC. DRIVE

PLANTER

STREET SIGN

GUARD POST

PIPELINE MARKER

WATER METER W/ VALVE 2-VAULT

15" OAK

20" OAK

16" PINE

7" ELM

LT POLE

SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.

(20) CL CURVE DATA
PC= 23+81.74
Δ= 19°46'01"
R= 925.00'
L= 319.12'
PT= 27+00.87

GREENWAY VILLAGE DRIVE - FORT BEND

124 / 122 / 120 / 118 / 116 / 114 / 112 / 110 / 108 / 106

27 / 28 / 29 / 30+00 / 31 / 31+50

EXIST 10" CRUDE LINE

EXIST COPANO 6" GAS LINE

EXIST 12" WL

2' MIN CLR

4' MIN COVER

PROP 8" RWL (C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

STM SWR MH
24" FL = 115.95 (S)
24" FL = 116.11 (W)
24" FL = 116.11 (N)
24" FL = 116.81 (E)

EXIST 24" RCP STM

1' MIN CLR

NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.

WATER LINE

1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE OR PVC PIPE CENTERED ON WATER LINE

RECLAIMED WL

1-20' JOINT ~ 150 PSI PRESSURE RATED DUCTILE IRON PIPE CENTERED ON SANITARY SEWER

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 3/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION

WASTEWATER — 4-8-14 — STORM WATER QUALITY

STORM — FACILITIES

STREET & BRIDGE — 4.15.14 — 4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 106 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
REVISIONS				

AECOM TECHNICAL SERVICES, INC.
3101 WILCREST DRIVE, SUITE 101 WEST
HOUSTON, TEXAS 77042-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER

CINCO RANCH RECLAIMED WATER SYSTEM

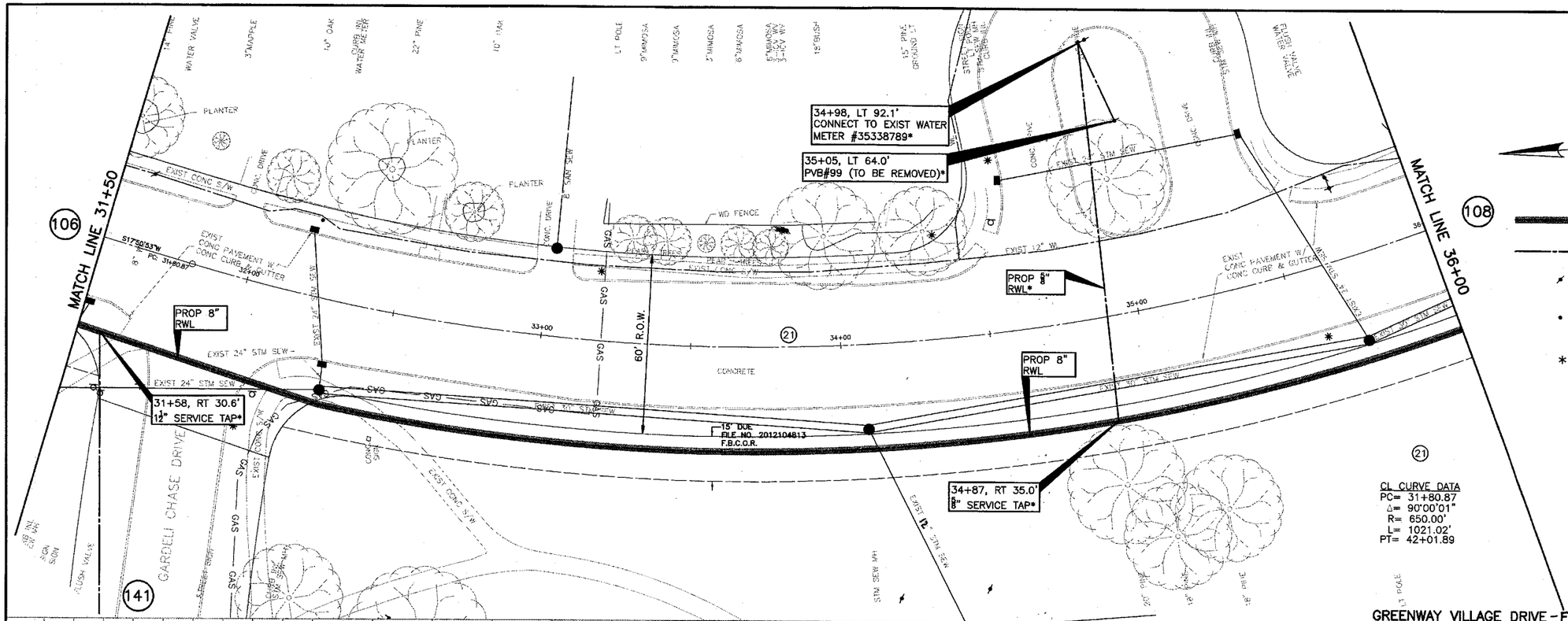
GREENWAY VILLAGE DRIVE (27+00 TO 31+50)

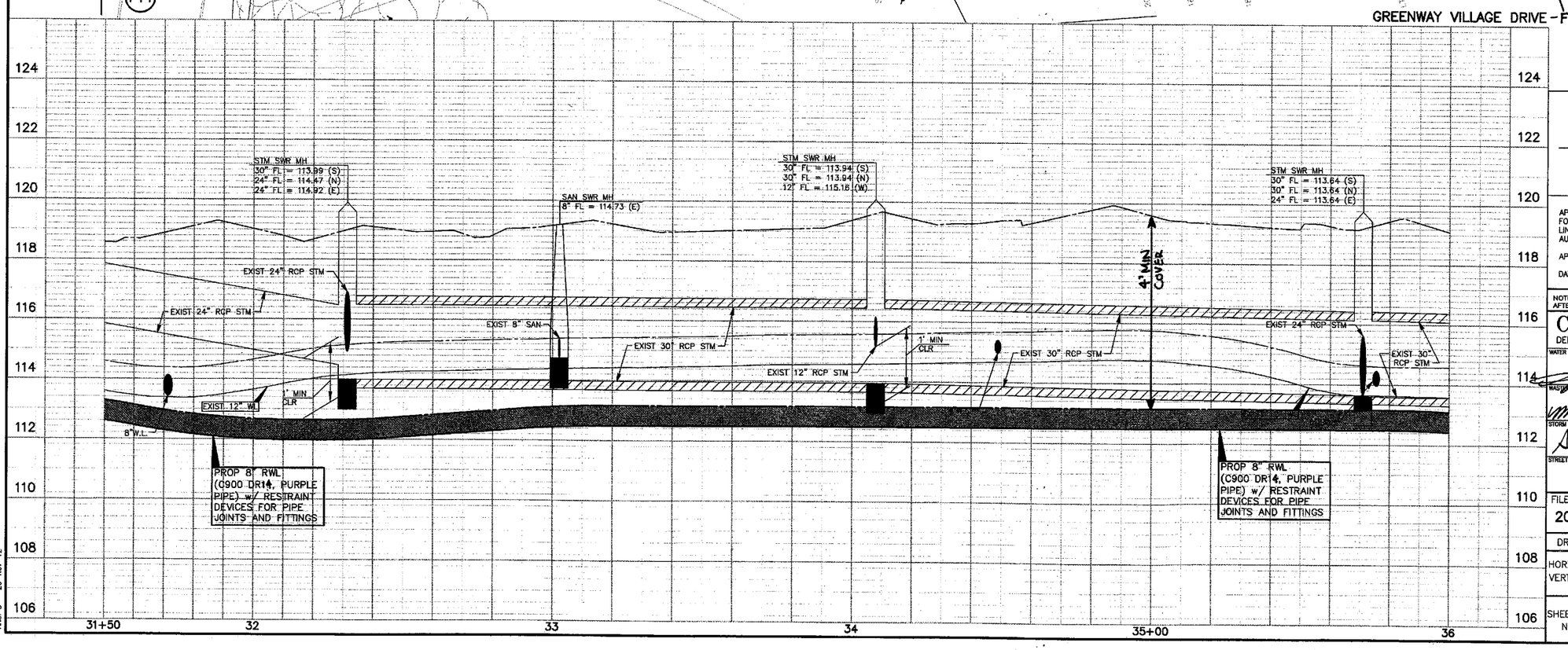
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 106 OF 154

PATH/FILENAME: L:\DWG\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:08:38 PM
PLOT DATE: Tuesday, November 20, 2012 12:19:32 PM
ANSI D — 20-Nov-12





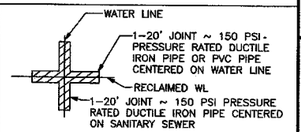
CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 107 OF 154

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/14/14

52149
CITY DRAWING PROJECTION
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 100 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

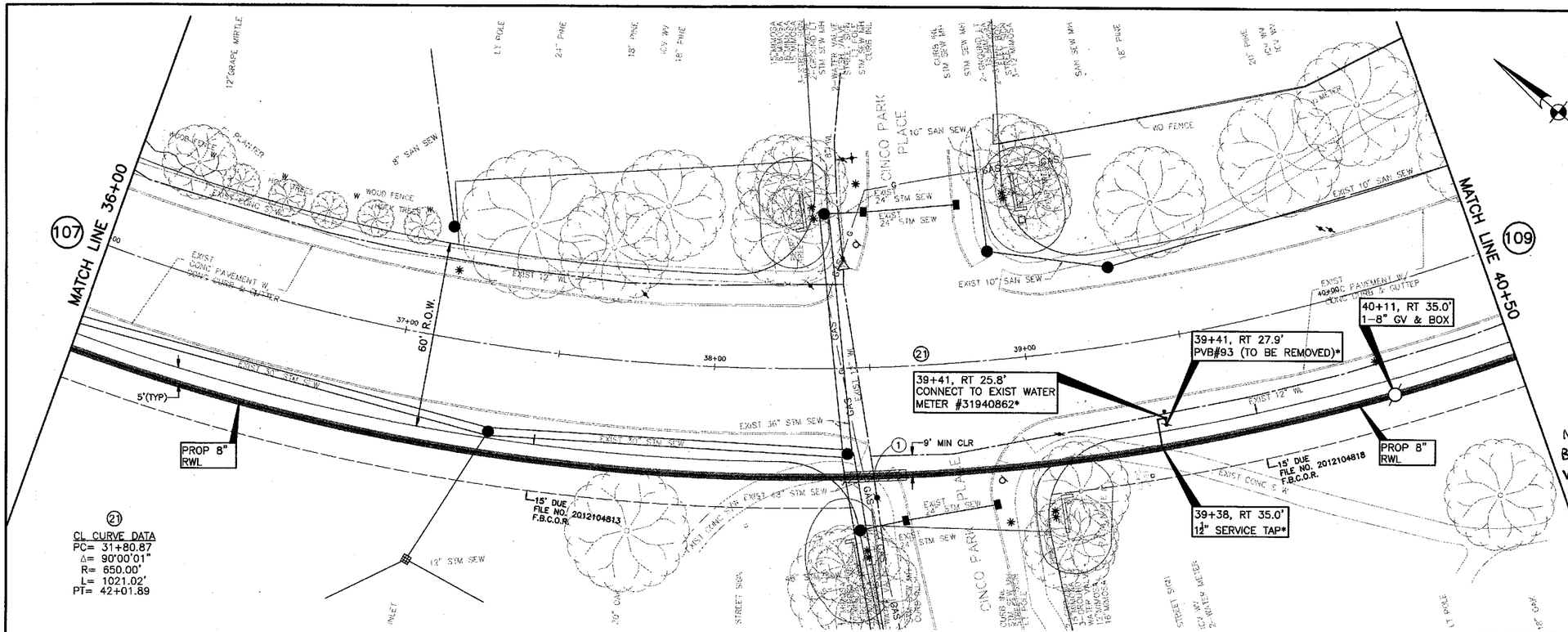
CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (31+50 TO 36+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 107 OF 154

PATH/FILENAME: L:\CINCO\30_CINCO RANCH\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:28:36 PM
PLOT DATE: Tuesday, November 20, 2012 12:19:56 PM
ANSI D - 20-Nov-12



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CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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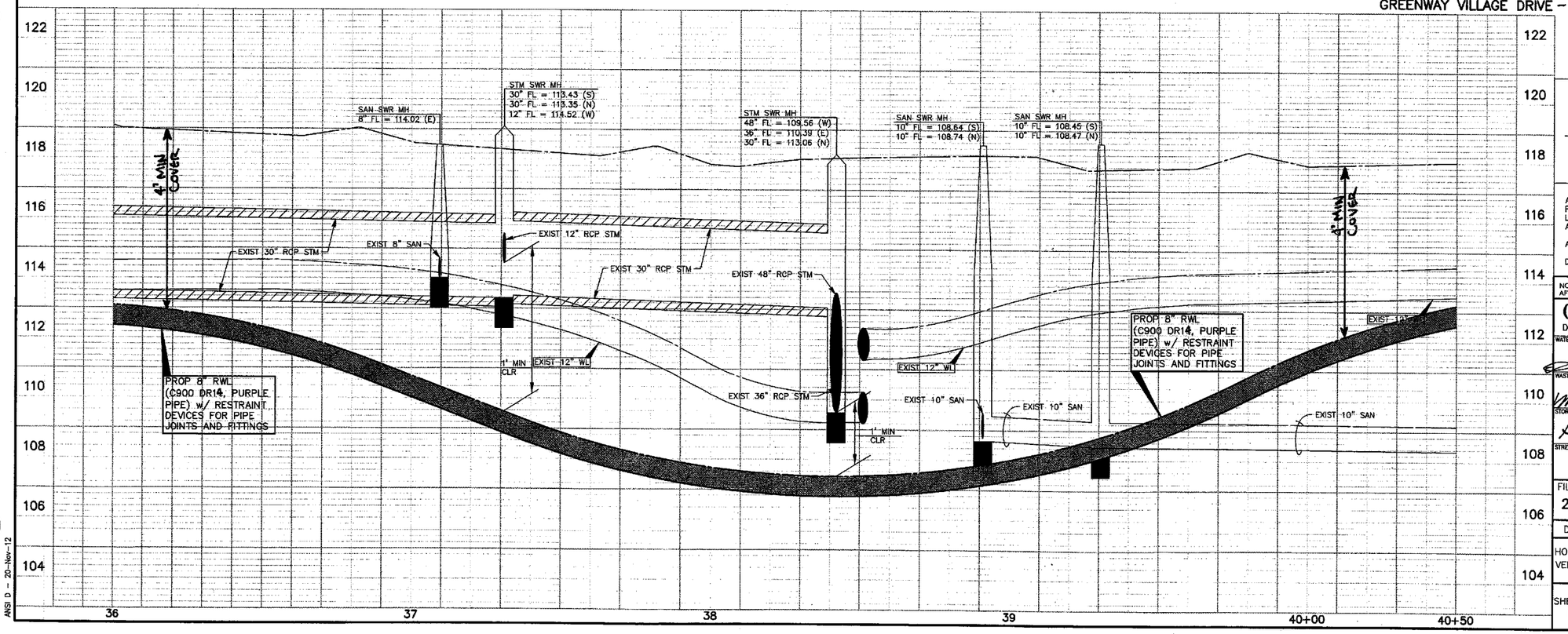
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

GREENWAY VILLAGE DRIVE - FORT BEND



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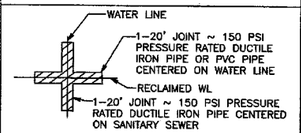

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APPROVED: ASSISTANT TO THE COUNTY ENGINEER
DATE: 3/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 108 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

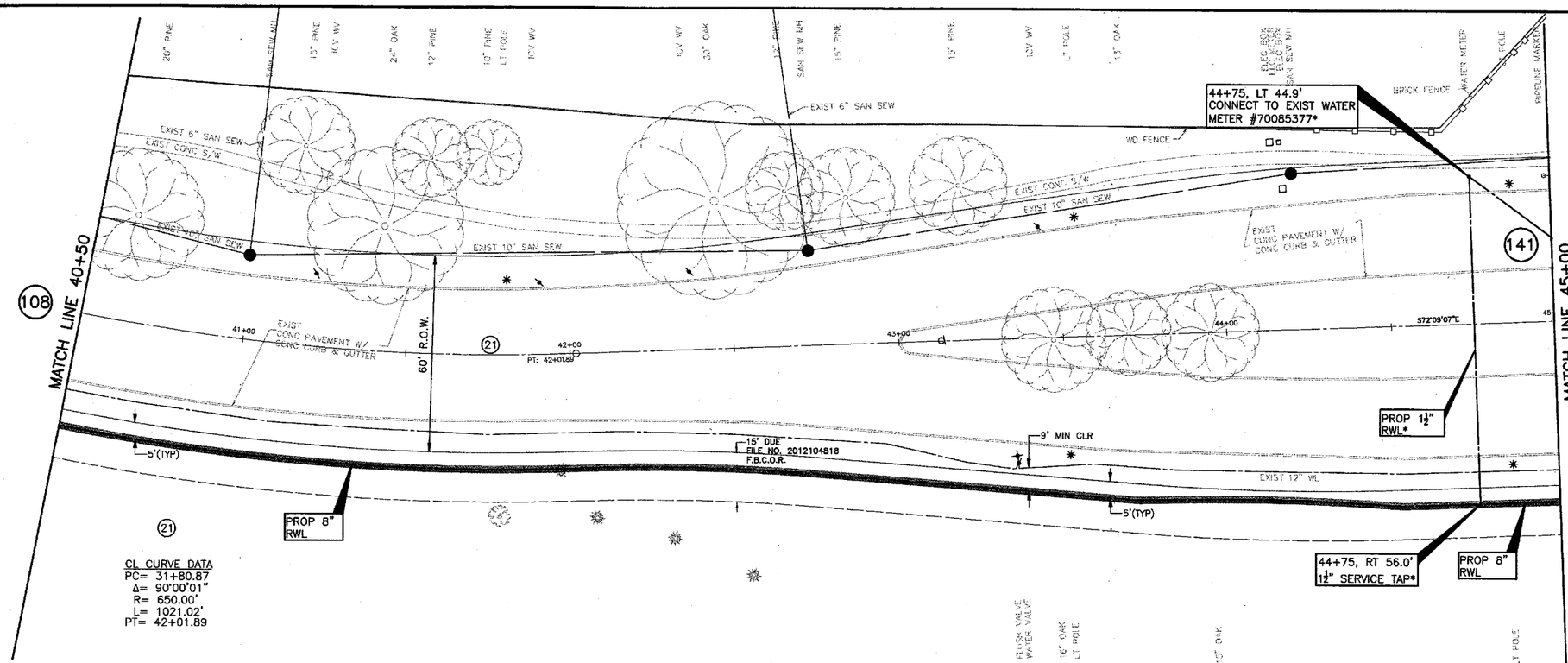
CINCO RANCH RECLAIMED WATER SYSTEM

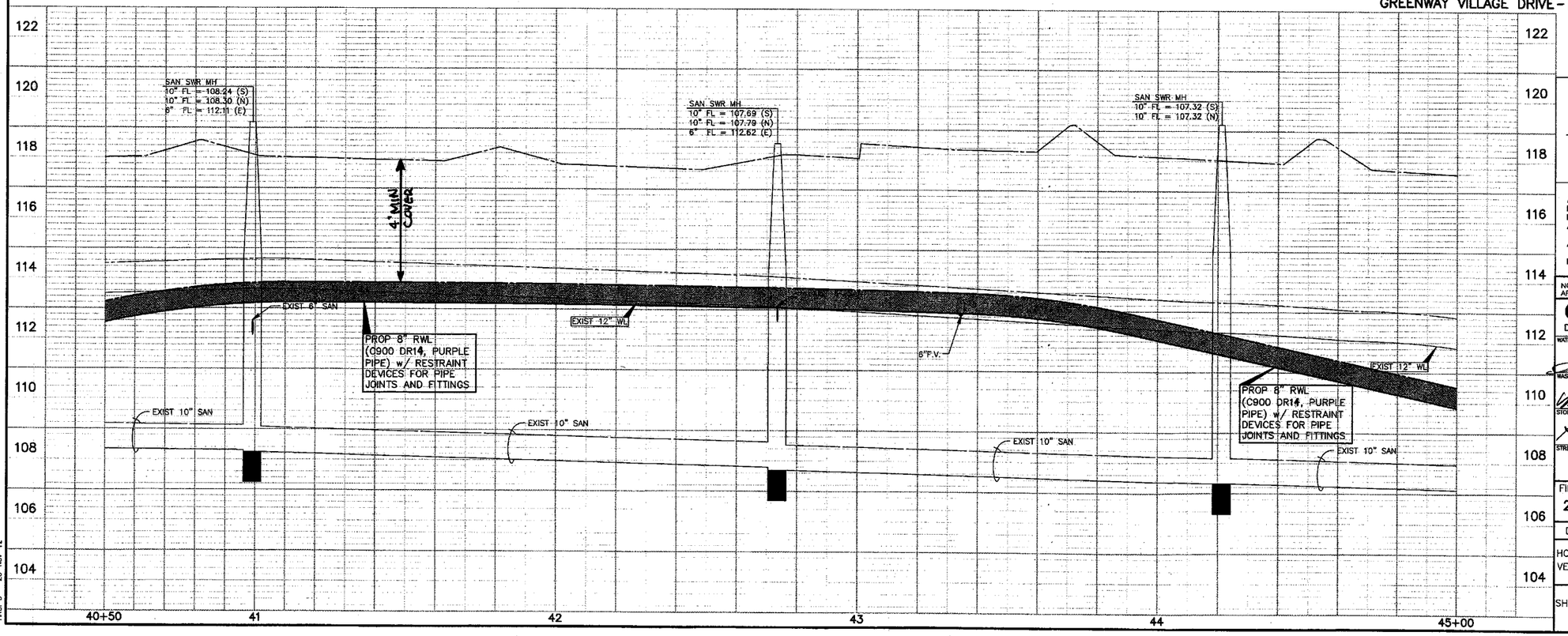
GREENWAY VILLAGE DRIVE (36+00 TO 40+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 108 OF 154

PATH/FILENAME: L:\CINCO\69\LIMCO\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, 20, 2012 12:05:36 PM
PLOT DATE: Tuesday, N, 2012 12:20:19 PM
ANSI D - 20-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

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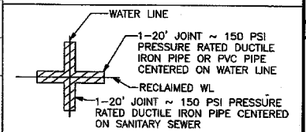

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 109 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 400 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (40+50 TO 45+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 109 OF 154

PROFESSIONAL ENGINEER 52149 CITY OF HOUSTON

PATH/FILENAME: L:\PROJ\P&P-GRNWAY.DWG
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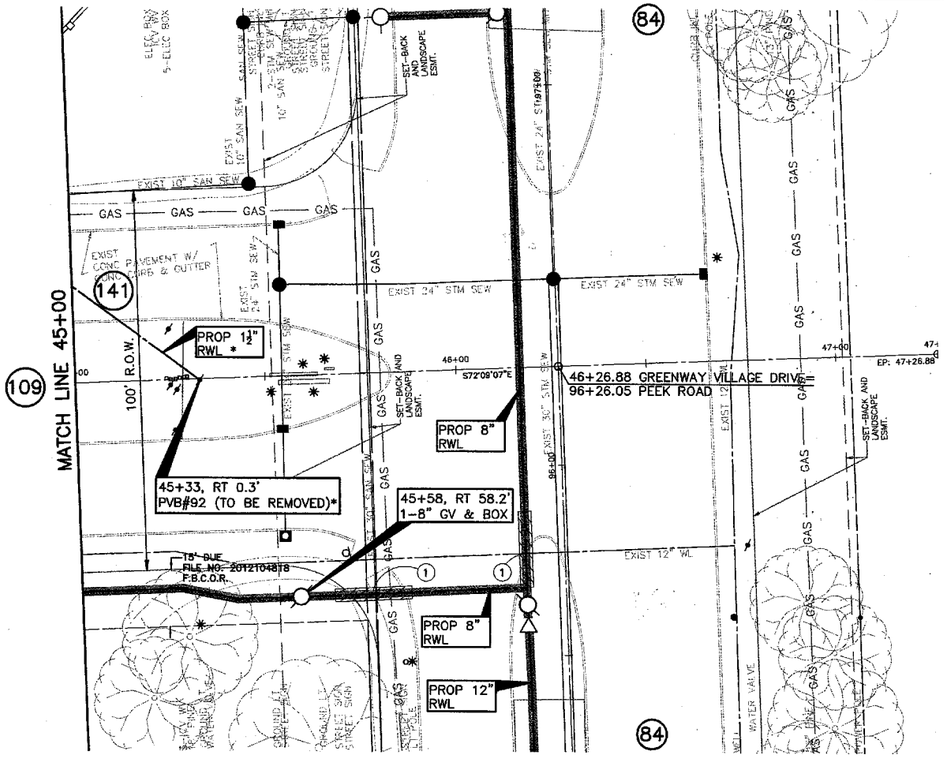
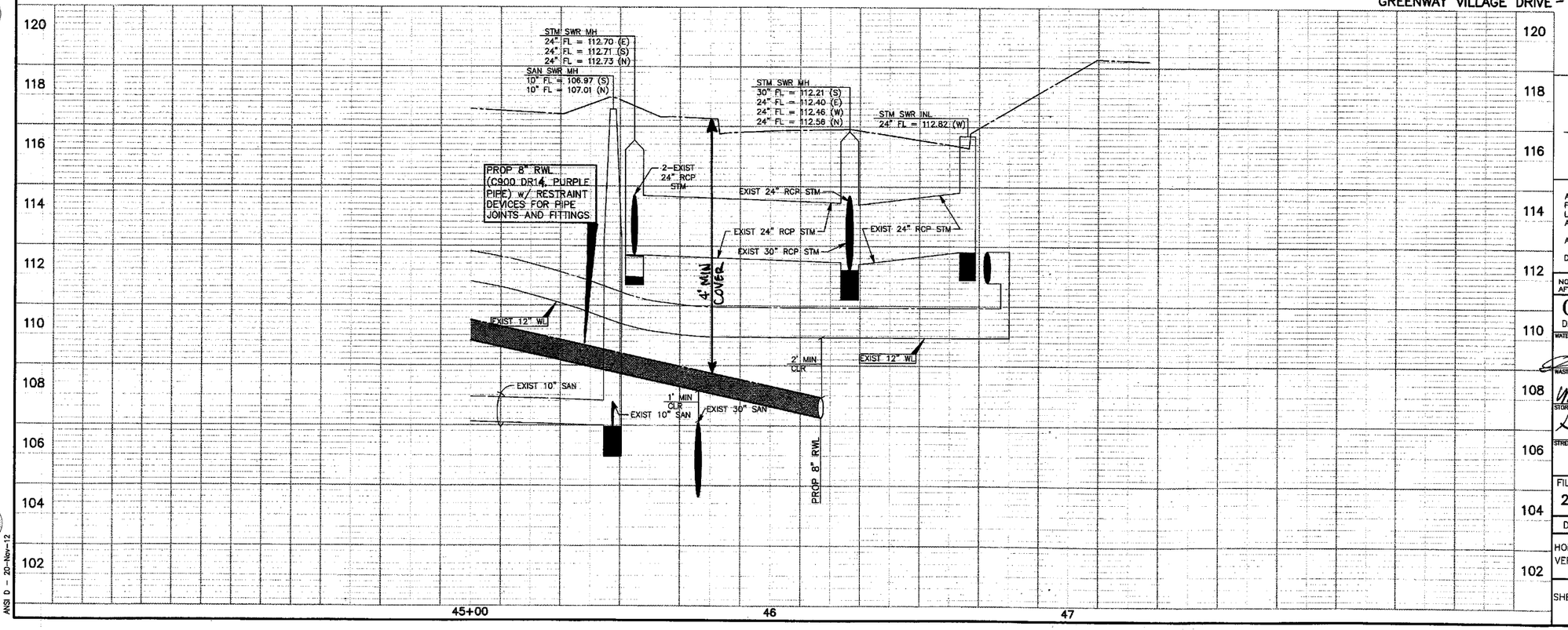
PLOT DATE: Tuesday, Nov 20, 2012 12:26:44 PM
ANSI D - 20-Nov-12





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NOTE:
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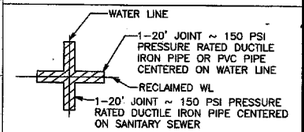

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-17	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

52149 CITY DRAWING NUMBER

SHEET No: 110 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1509
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

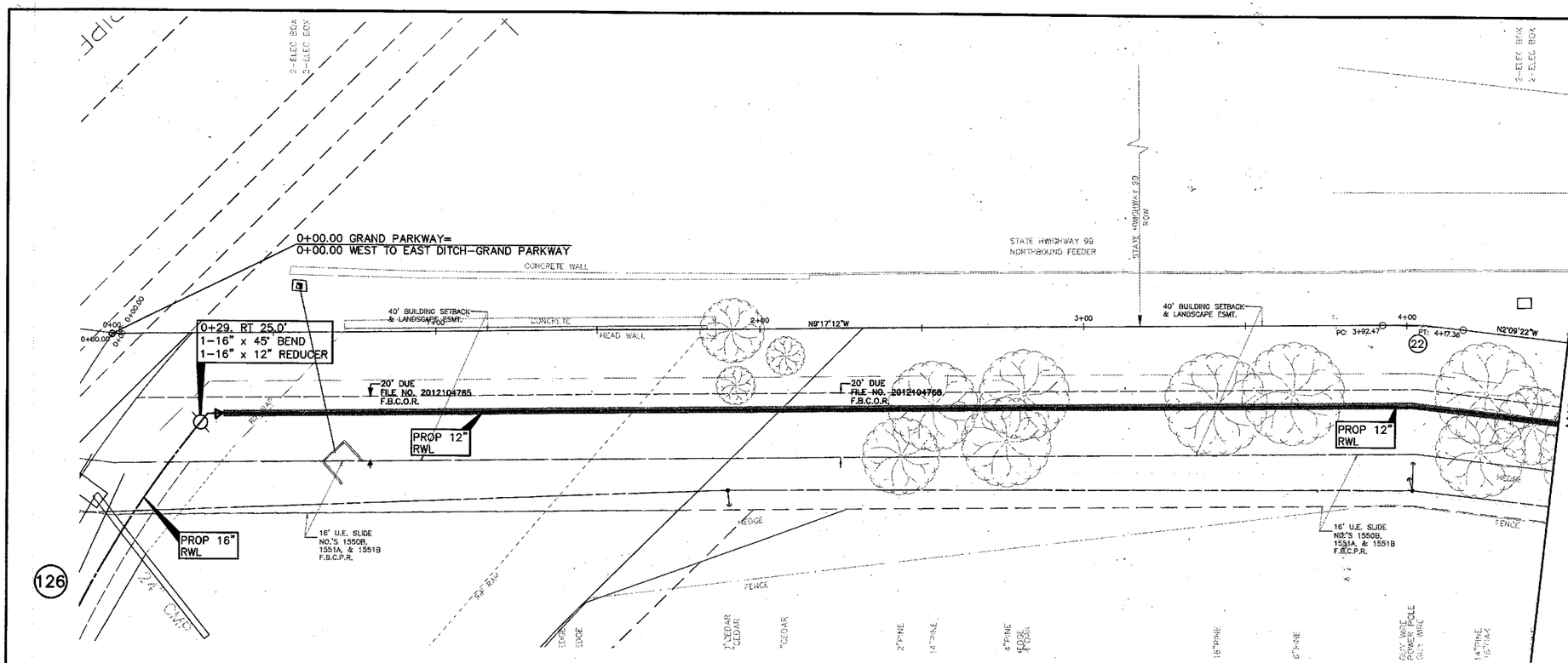
CINCO RANCH RECLAIMED WATER SYSTEM

GREENWAY VILLAGE DRIVE (45+00 TO 47+27)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRNWAY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 110 OF 154

PATH/FILENAME: L:\CINCO****\463\DWG\P&P-GRNWAY.DWG
LAST UPDATE: Tuesday, November 20, 2012 12:08:36 PM
PLOT DATE: Tuesday, November 20, 2012 12:21:06 PM
ANSI D - 20-Nov-12



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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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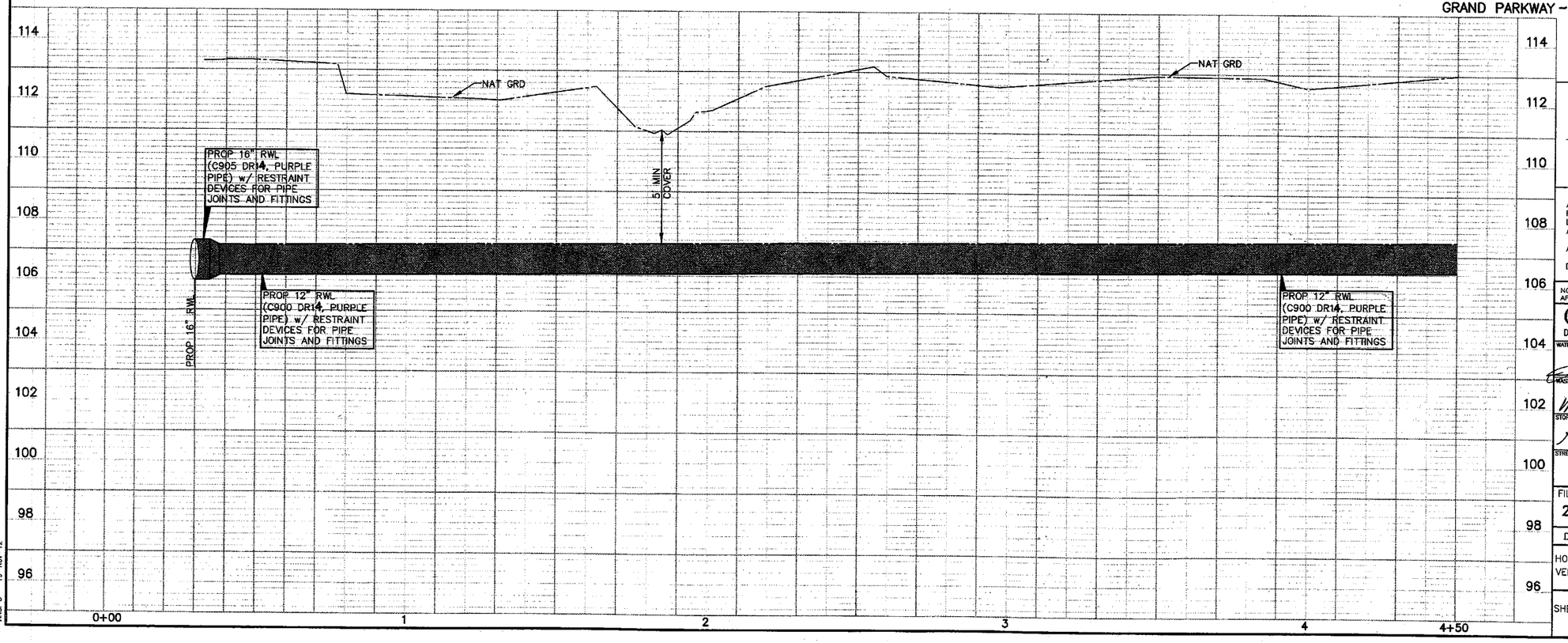
(22)

CL CURVE DATA
PC= 3+92.47
Δ= 7°07'50"
R= 200.00'
L= 24.89'
PT= 4+17.36

GRAND PARKWAY - FORT BEND



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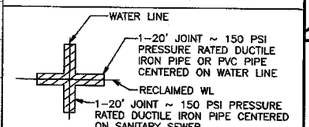

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
12-19-12	
WASTEWATER	STORM WATER QUALITY
4-8-14	
STORM	FACILITIES
4.15.14	4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 111 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
3757 BROADWAY, SUITE 101 WEST
HOUSTON, TEXAS 77059-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

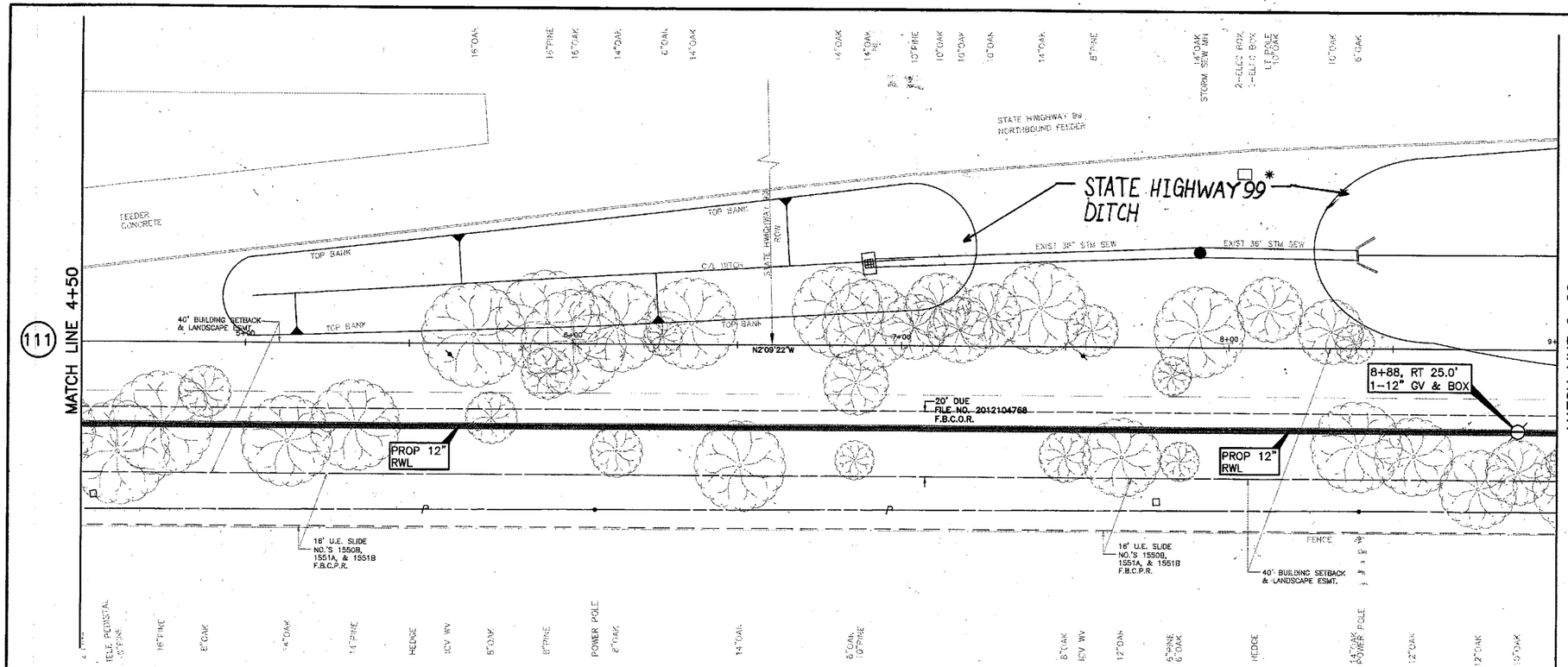
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

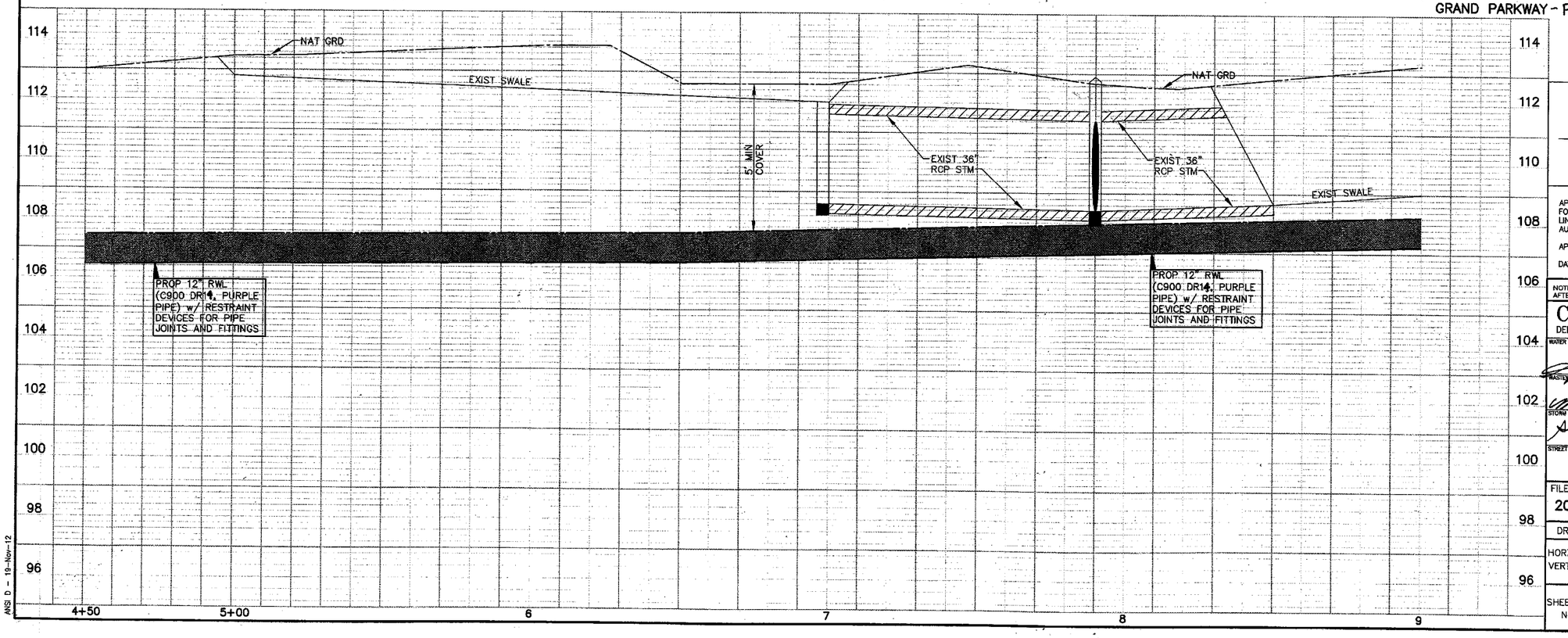
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
GRAND PARKWAY (0+00 TO 4+50)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 111 OF 154

PATH/FILENAME: L:\DWG\P&P-GRAND PKWY.DWG
LAST UPDATE: Monday, November 19, 2012 6:49:54 PM
PLOT DATE: Monday, November 19, 2012 6:49:54 PM
ANSI D - 19-Nov-12





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CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

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- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
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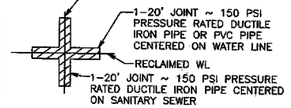

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-3-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 112 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY (4+50 TO 9+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 112 OF 154

PRINCIPAL ENGINEER 52149 REGISTERED

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LAST UPDATE: Monday, November 19, 2012 8:45:58 PM
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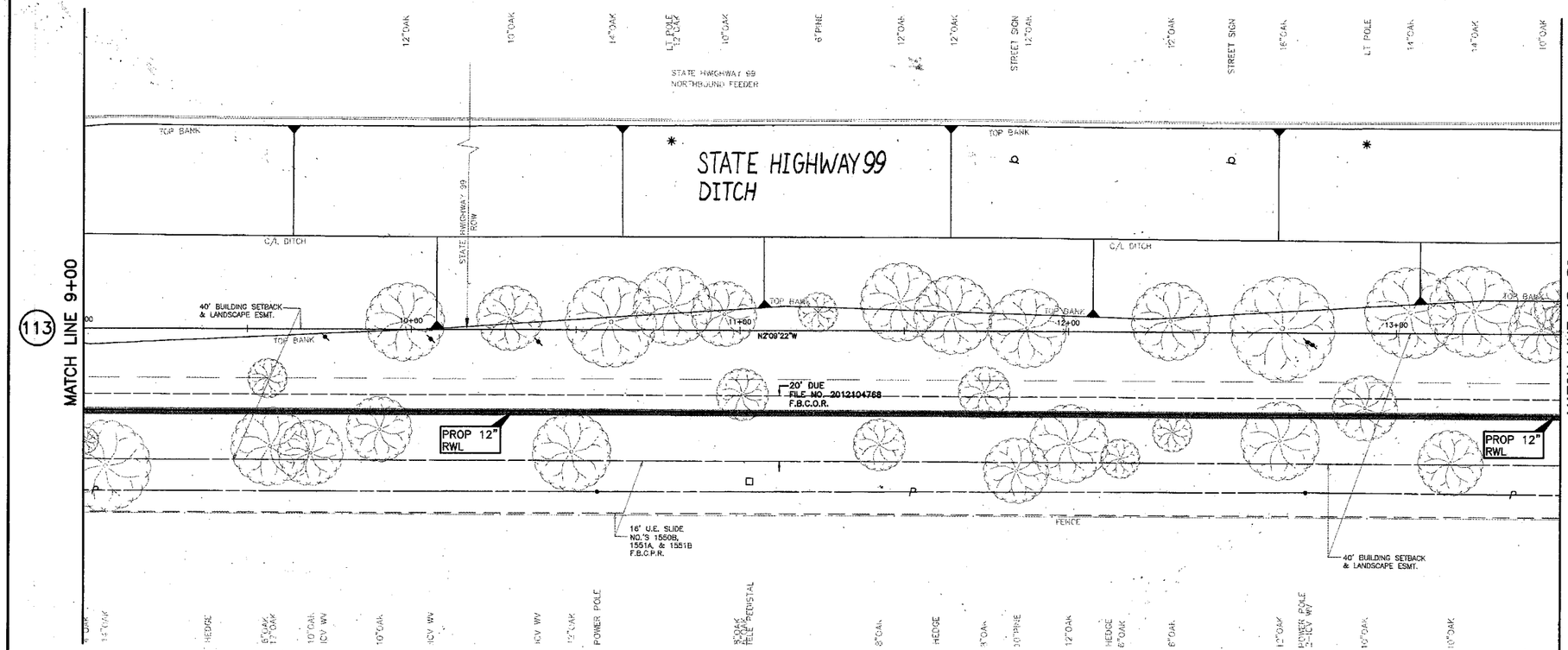
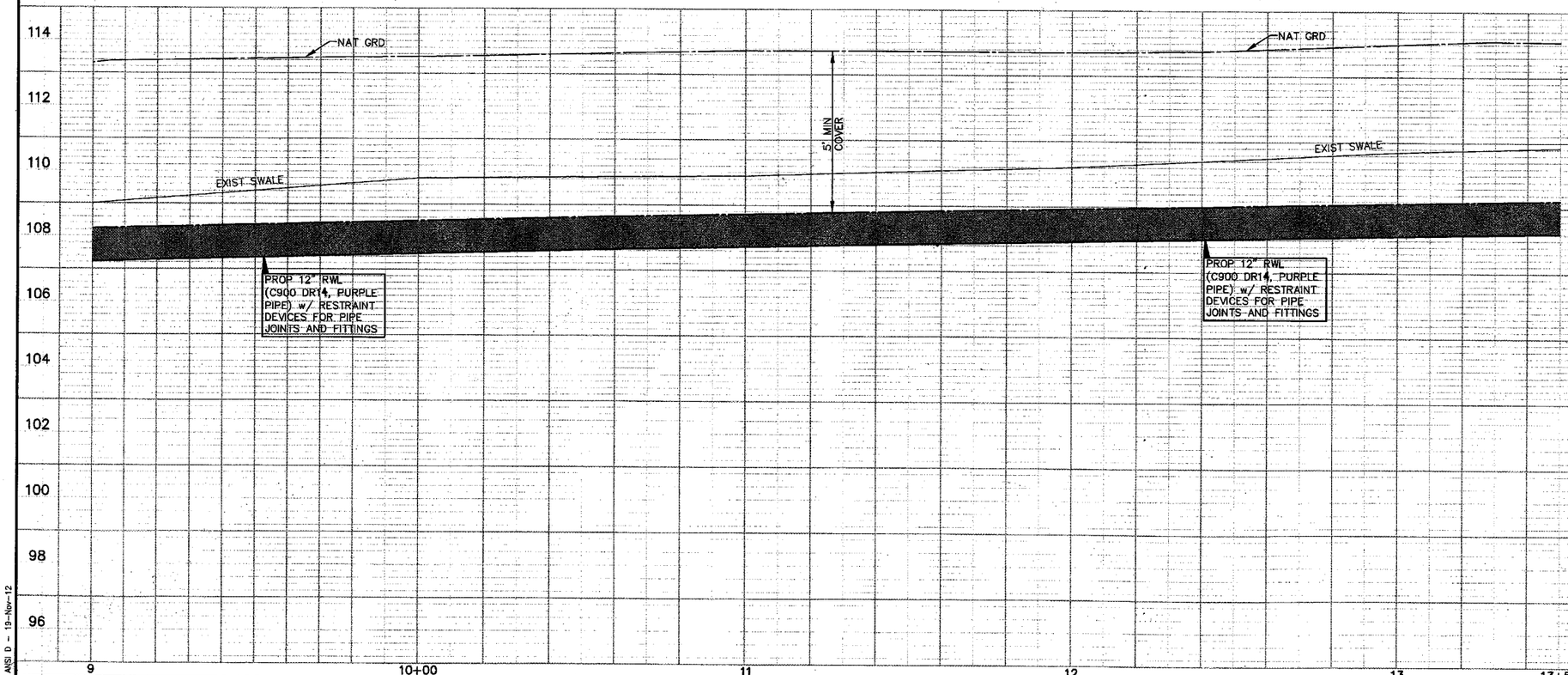
ANSI D - 19-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

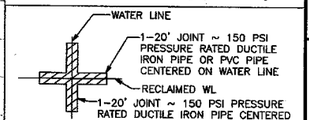
CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-23-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 113 OF 154

52149 — CITY DRAWING REVIEWED — NOT TO BE USED FOR CONSTRUCTION

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY (9+00 TO 13+50)

PROJECT NO:	60194669 (WSD) (PAV)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 113 OF 154

PATH/FILENAME: L:\CINC...\DWG\P&P-GRAND PKWY.DWG
LAST UPDATED: Monday, Nov... 9, 2012 4:58:58 PM
PLOT DATE: Monday, Nov... 4, 2012 8:50:41 PM
ANSI D - 19-Nov-12

MATCH LINE 13+50

(113)

MATCH LINE 18+00

(115)

STATE HIGHWAY99
DITCH

STATE HIGHWAY 99
NORTHBOUND FEEDER

TOP BANK

C/L DITCH

40' BUILDING SETBACK & LANDSCAPE ESMT.

N2°09'22"W

15+38, RT 25.0'
12" SERVICE TAP*

17+71, RT 25.0'
1-12" GV & BOX

PROP 12" RWL

PROP 12" RWL

PROP 12" RWL*

(141)

16' U.E.
FILE NO. 9834410
F.B.C.O.R.

20' DUE
FILE NO. 2012104768
F.B.C.O.R.

16' U.E. SLIDE
NO.'S 1550B,
1551A, & 1551B
F.B.C.P.R.

FENCE

GUARDRAIL

STREET SIGN

POWER POLE

TELE PEDESTAL

BUSH

HEDGE

14+00 15+00 16+00 17+00 18

NAT GRD

EXIST SWALE

5' MIN COVER

PROP 12" RWL
(C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 12" RWL
(C900 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

114 112 110 108 106 104 102 100 98 96

13+50 14 15+00 16 17 18

GRAND PARKWAY - FORT BEND

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

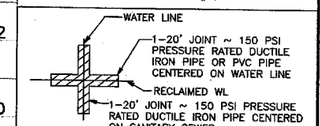
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-8-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 114 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY (13+50 TO 18+00)

PROJECT NO:	60194669 (WSD) ——— (PAV)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 114 OF 154

PATH/FILENAME: L:\CIVIL\...\P&P-GRAND PKWY.DWG
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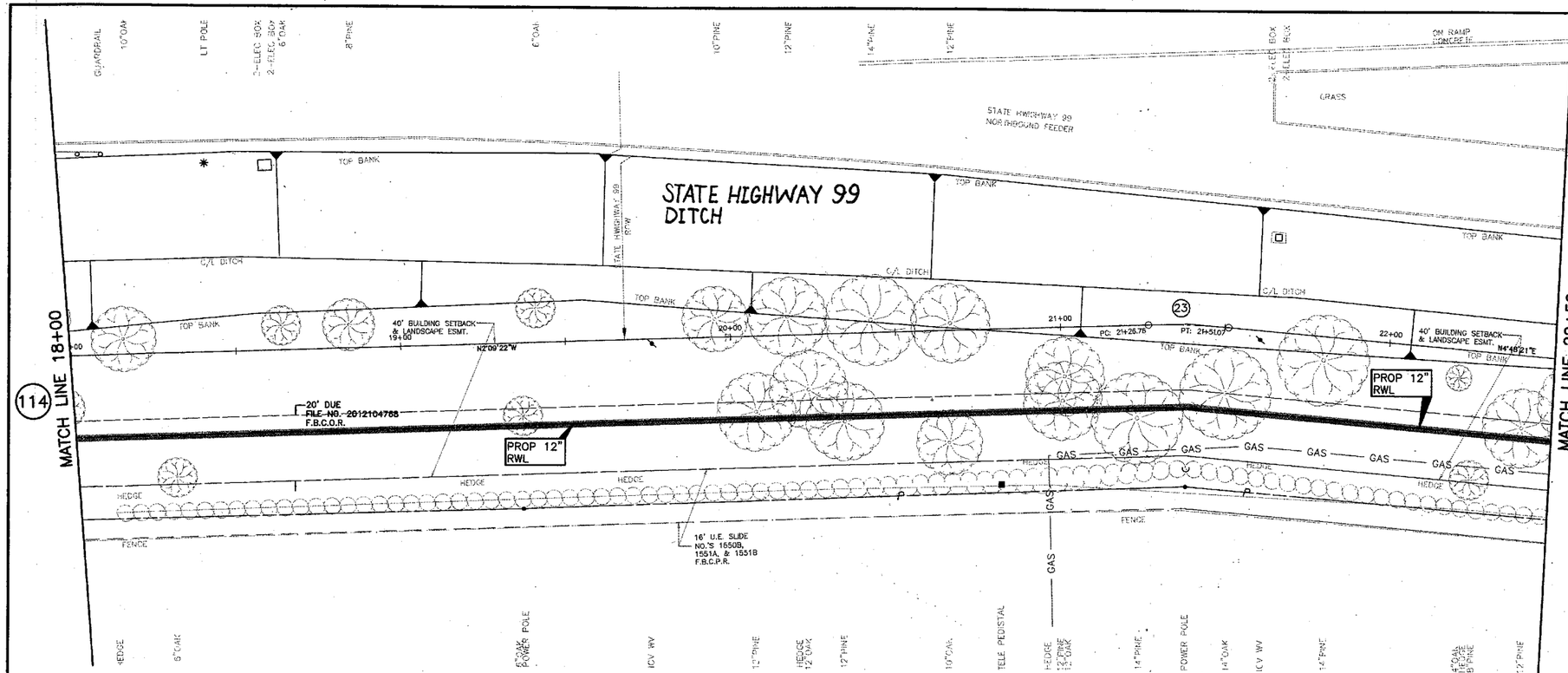
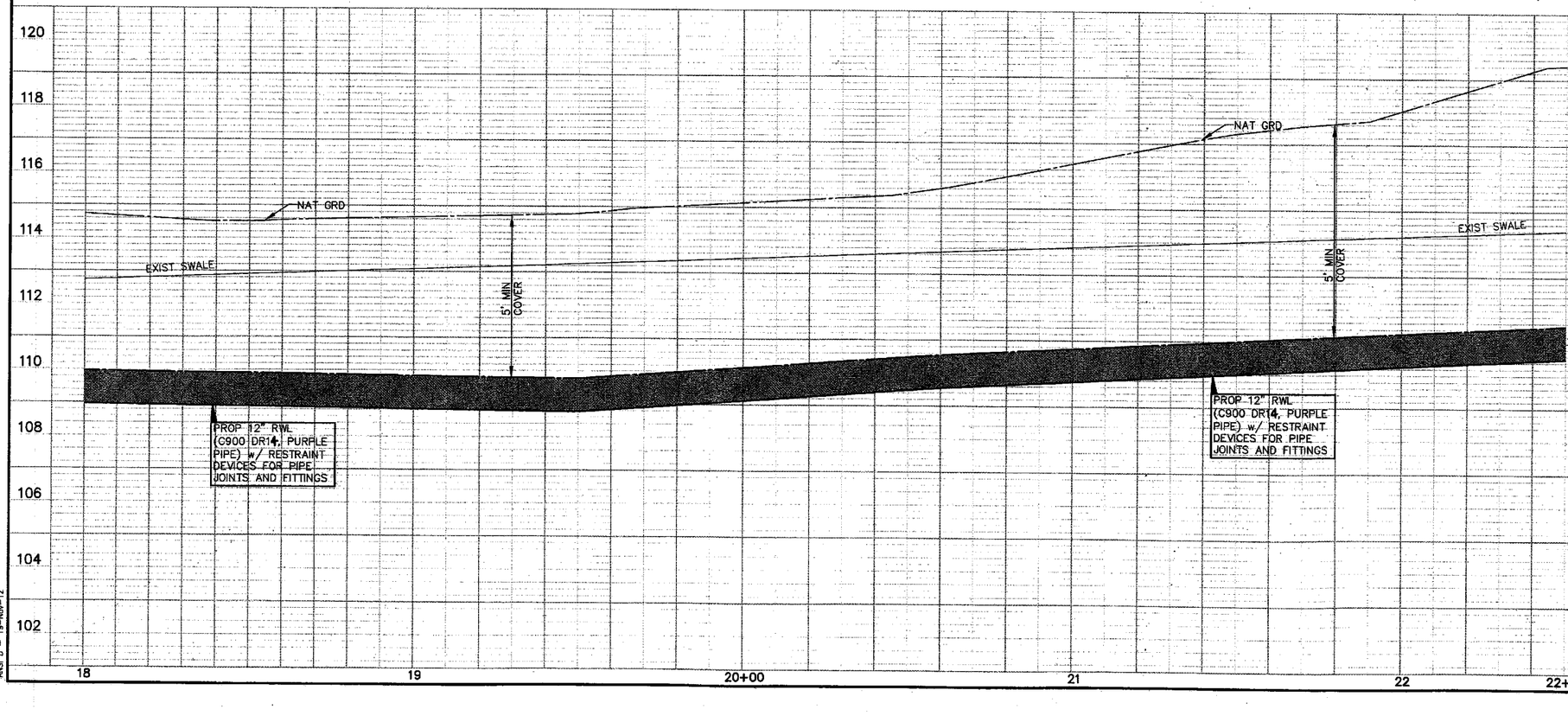
ANSI D - 19-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

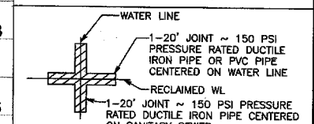
CAUTION: EXISTING OVERHEAD POWER - FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

(23)
CL CURVE DATA
PC= 21+26.76
Δ= 6°57'43"
R= 200.00'
L= 24.30'
PT= 21+51.07

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-8-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jarad Ank 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 115 OF 154

52149 — DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REGS. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
GRAND PARKWAY (18+00 TO 22+50)

PROJECT NO:	60194669 (WSD) (PAV)
CAD DWG FILE:	P&P-GRAND PKW
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 115 OF 154

PATH/FILENAME: L:\CIVIL\P&P-GRAND PKWY.DWG
LAST UPDATE: Monday, November 19, 2012 6:45:58 PM
PLOT DATE: Monday, November 19, 2012 6:51:46 PM
ANSI D — 19-Nov-12

MATCH LINE 22+50

MATCH LINE 27+00

(115) (24) (119) (117)

24+40.90 GRAND PARKWAY=
5+15.48 GRAND PARKWAY CROSSING

STATE HIGHWAY 99
DITCH

STATE HIGHWAY 99
NORTHBOUND FEEDER

STATE HWY ROW

TOP BANK

C/L DITCH

40' BUILDING SETBACK & LANDSCAPE ESMT.

N4°48'21"E

N0°32'02"E

20' DUE
FILE No. 20121097 69
F.B.C.O.R.

20' DUE
FILE NO. 2013120 86
F.B.C.O.R.

PROP 16" RWL

NOTE: TxDOT APPROVAL LOCATED ON SHT. 143

PROP 12" RWL

PROP 16" RWL

10' U.E.
F.N. 2004111151
F.B.C.O.R.

16' U.E. SLIDE
NO.'S 1550B,
1551A, & 1551B
F.B.C.P.R.

8' U.E. SLIDE
1409B, F.B.C.P.R.

30' DRAINAGE EASEMENT
F.N.: 2004115673
F.B.C.O.R.

24+50, RT 25.0'
1-16" x 16" TEE
1-16" x 12" REDUCER
1-16" GV & BOX

26+90, RT 25.0'
2" RECLAIMED AIR
RELEASE VALVE
(SEE DETAIL SHT 147)

PBL 24+24.59
PEL 24+39.50

PP 6+00.00
6+00

GAS — GAS — GAS — GAS — GAS — GAS — GAS — GAS — GAS

HEDGE

FENCE

P

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

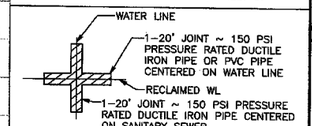
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

(24)

CL CURVE DATA
PC= 24+24.59
Δ= 4°16'19"
R= 200.00'
L= 14.91'
PT= 24+39.50

GRAND PARKWAY- FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 9/4/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-3-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jared Hunt 4.3.14
STREET & BRIDGE	

FILE NO:
2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 116 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194659, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

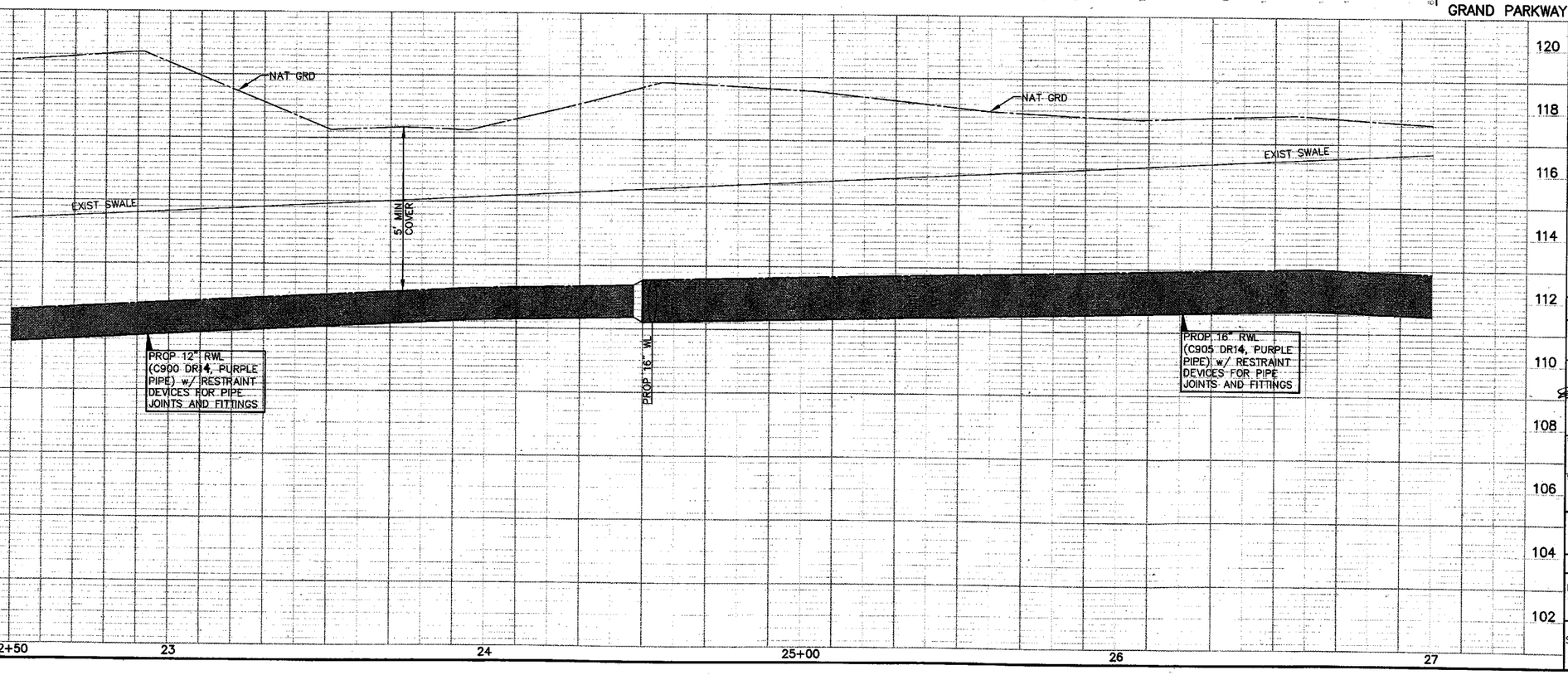
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY (22+50 TO 27+00)

PROJECT NO:	60194659 (WSD) ----- (PW)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 116 OF 154



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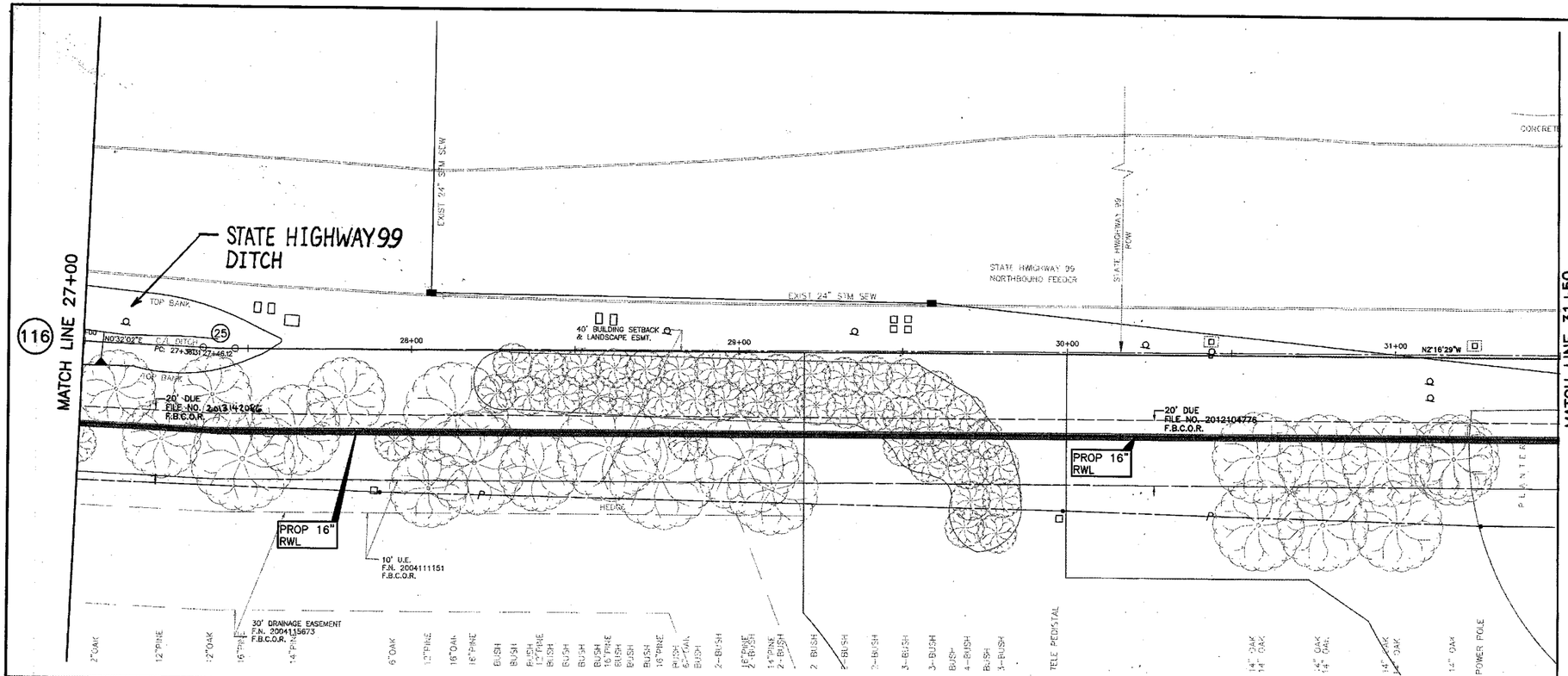
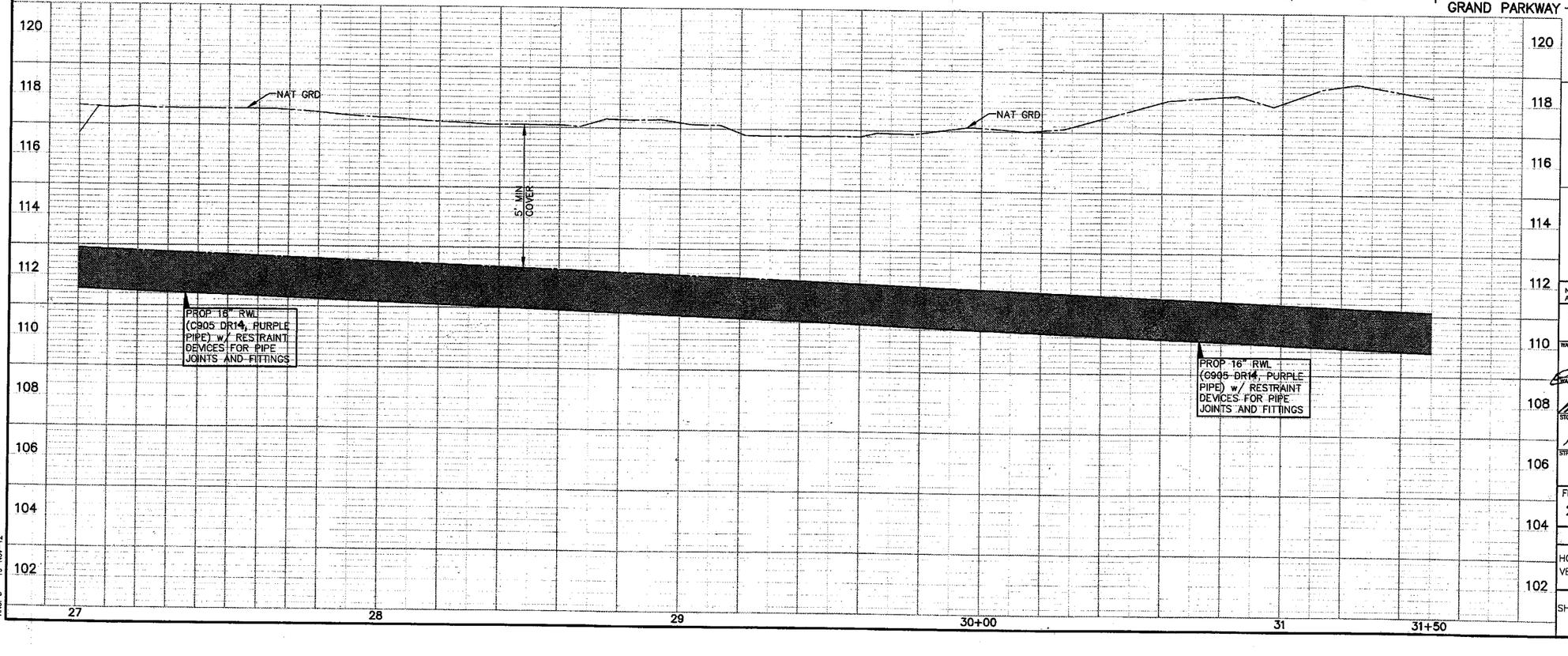
ANSI D - 19-Nov-12





CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

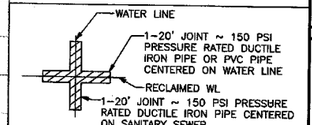
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

(25)

CL CURVE DATA
PC= 27+36.31
Δ= 2°48'31"
R= 200.00'
L= 9.80'
PT= 27+46.12

GRAND PARKWAY - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE, WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION 4-12-14
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 20'
VERT : 1" = 2'
SHEET No: 117 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

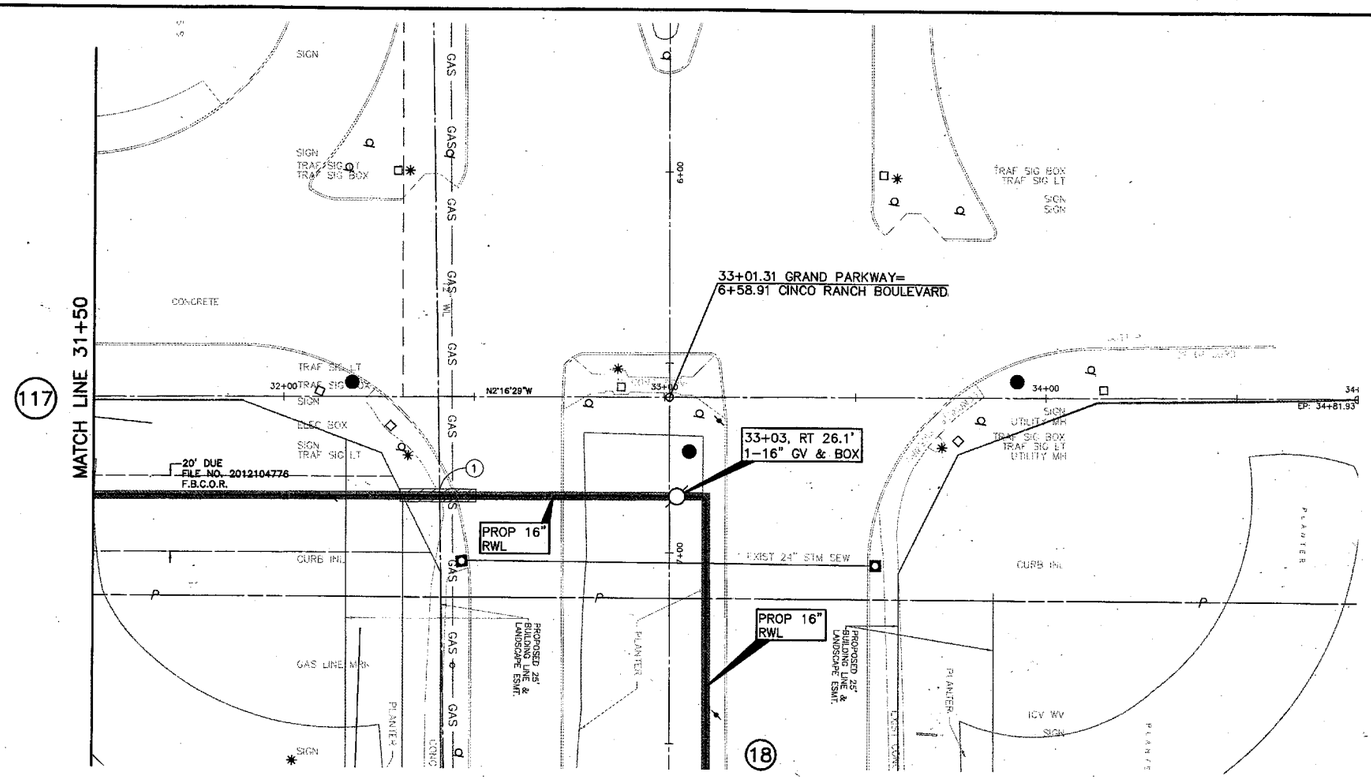
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

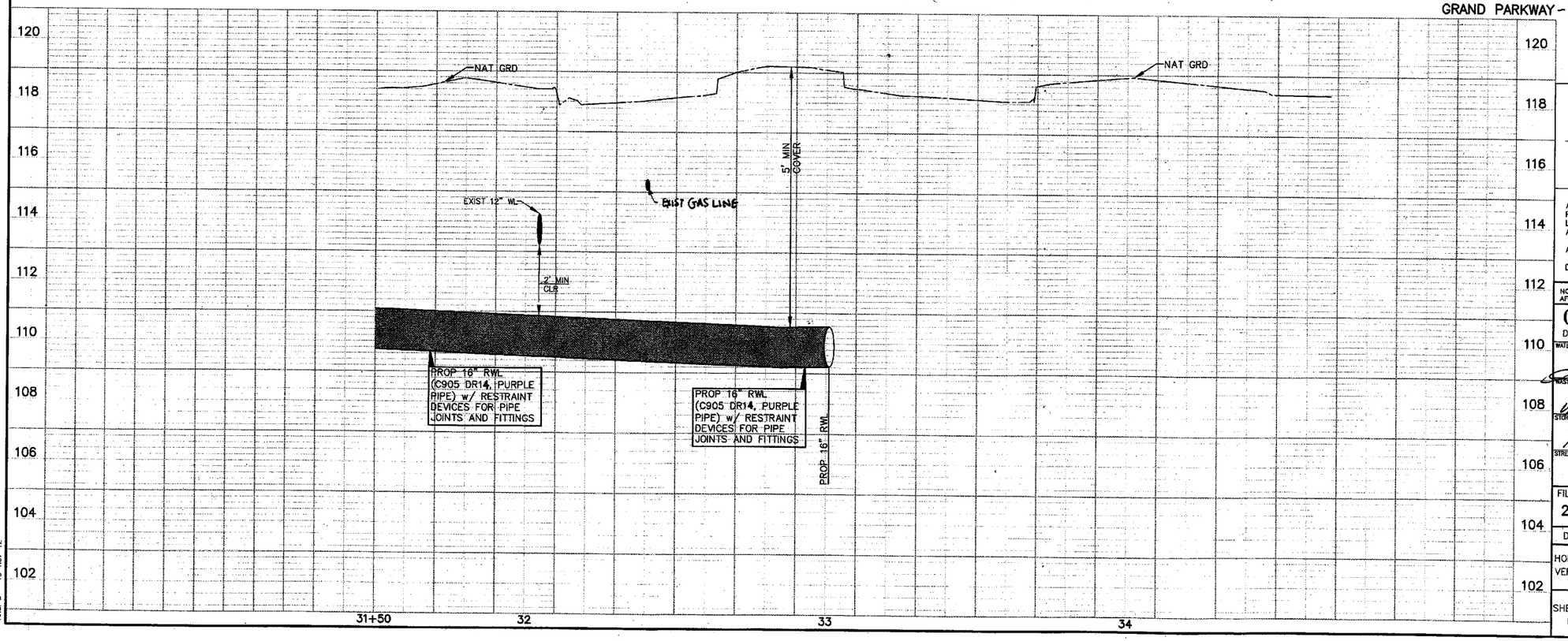
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
GRAND PARKWAY (27+00 TO 31+50)

PROJECT NO:	60194669 (WSD) ____ (PAV)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 117 OF 154

PATH/FILENAME: U:\CINCO\...\DWG\P&P-GRAND PKWY.DWG
LAST UPDATE: Monday, ..., 2012 8:45:58 PM
PLOT DATE: Monday, Nov..., 2012 8:52:51 PM
ANSI D - 19-Nov-12





CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

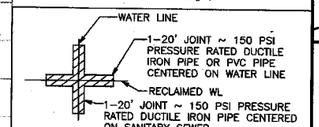
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION.
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

GRAND PARKWAY - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION 12-13-13
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	Jawad Amd 4.3.14

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 20'
VERT : 1" = 2'

SHEET No: 118 OF 154

52149
CITY DRAWING NUMBER

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
5/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

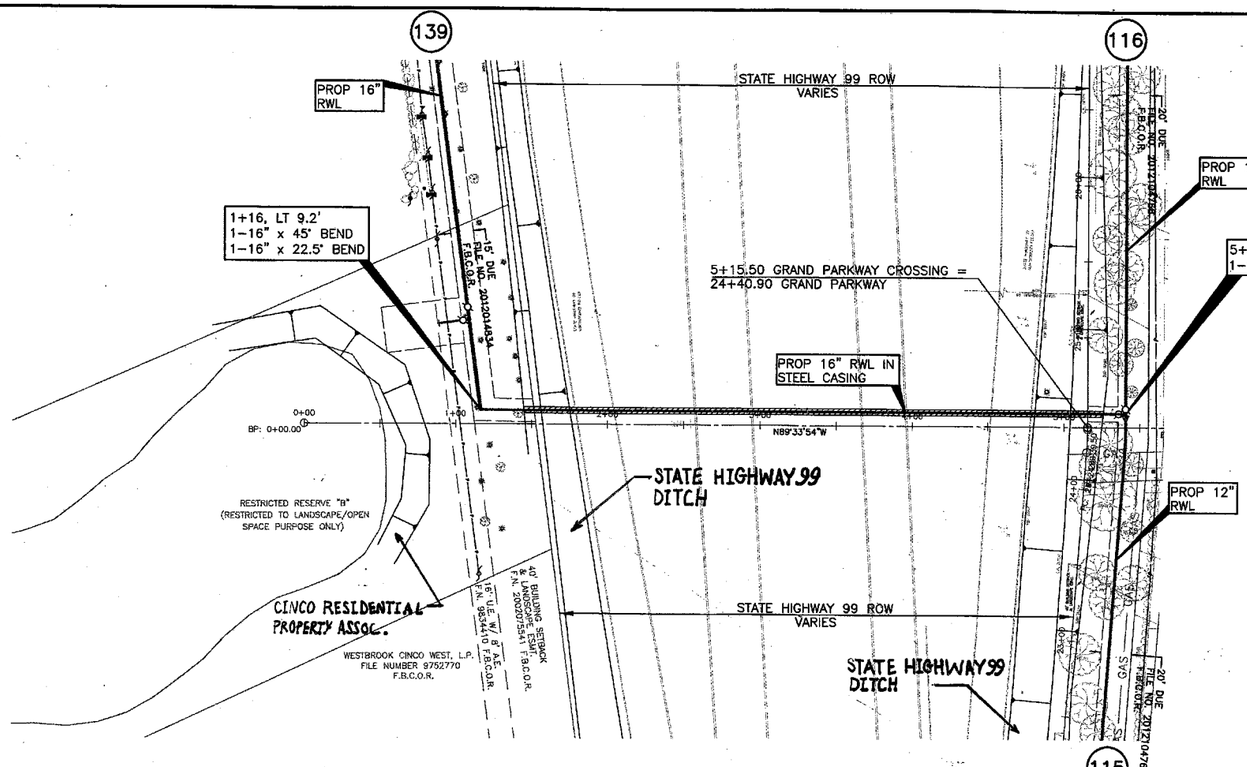
CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY (31+50 TO 34+68)

PROJECT NO:	60194669 (WSD) ----- (PAV)
CAD DWG FILE:	P&P-GRAND PKWY
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 20'

SHEET 118 OF 154

PATH/FILENAME: L:\CIVIL\...\9_DWG\P&P-GRAND PKWY.DWG
LAST UPDATE: Monday, November 19, 2012 8:45:58 PM
PLOT DATE: Monday, November 19, 2012 8:53:27 PM
ANSI D - 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

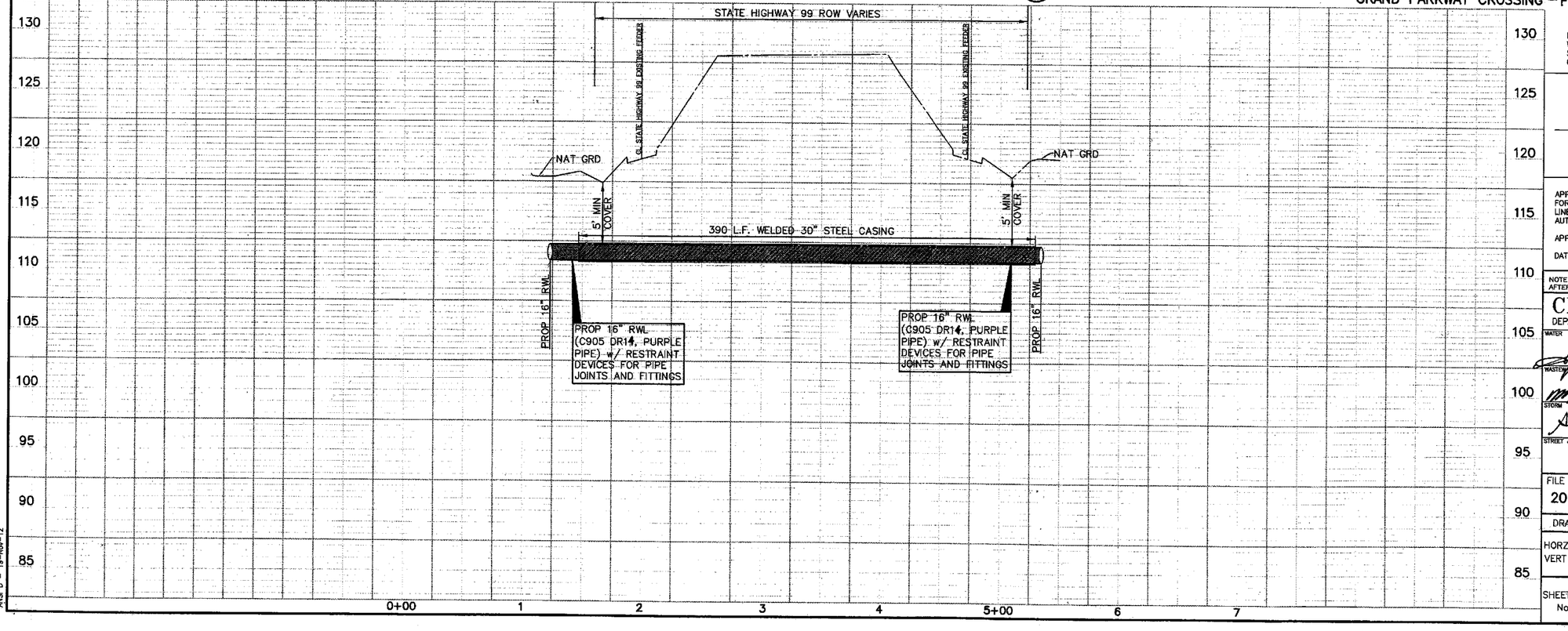
* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

1) CONTRACTOR SHALL CONTACT ISRAEL CUELLAR AT (281)238-7955 PRIOR TO BEGINNING WORK TO OBTAIN AN APPROVED TRAFFIC CONTROL PLAN.
2) NO DIRT NUISANCE TO ROADWAY.
3) ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY AND THE EXCAVATION FINISHED FLUSH WITH SURROUNDING NATURAL GROUND.
4) NO BORE PITS TO BE LEFT UNPROTECTED.
5) AREA DISTURBED BY WORK SHALL BE RE-SODDED.
6) PLEASE CONTACT ISRAEL CUELLAR WHEN JOB STARTS AND IS COMPLETED.

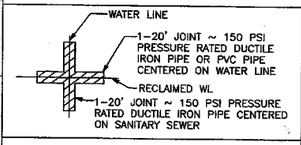
IN ALL AREAS WHERE 25' DUE EXISTS, A MIN 12' ALL WEATHER ACCESS ROAD TO BE CONSTRUCTED IN ACCORDANCE TO THE DETAIL ON SHEET 121 OF 154.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES, AS NECESSARY.
CONTRACTOR TO RESTORE BORE PIT AREAS TO EXISTING OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

GRAND PARKWAY CROSSING - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-18-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'
SHEET No: 119 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
2500 WEST LOOP SOUTH, SUITE 1800
HOUSTON, TEXAS 77027-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

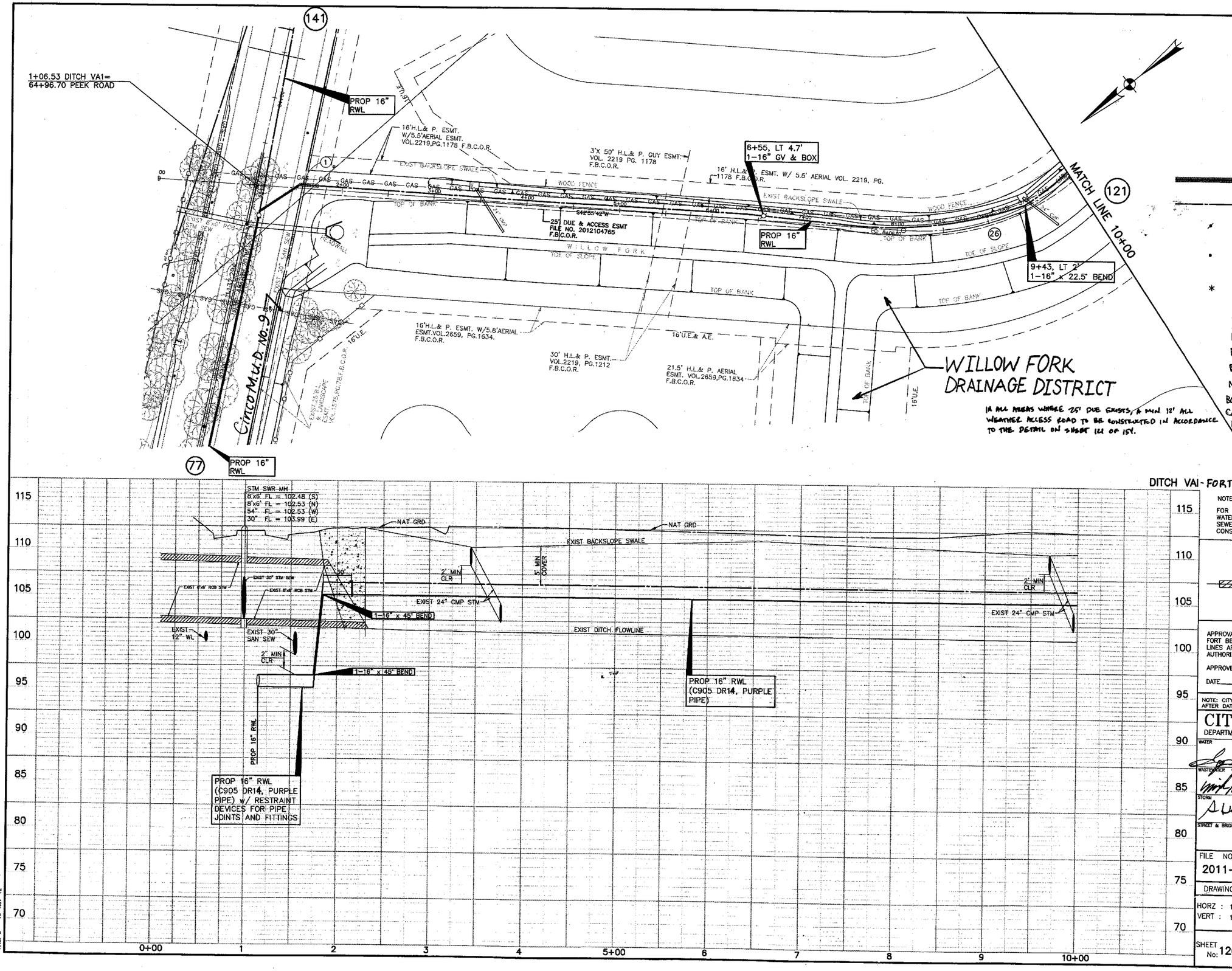
CINCO RANCH RECLAIMED WATER SYSTEM

GRAND PARKWAY CROSSING

PROJECT NO:	60194669 (WSO)
CAD DWG FILE:	P&P-GRAND PKW
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 119 OF 154

PATH/FILENAME: L:\CINCO\P&P-GRAND PKWY.DWG
LAST UPDATE: Monday, November 19, 2012 8:45:56 PM
PLOT DATE: Monday, November 19, 2012 8:54:01 PM
ANSI D - 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

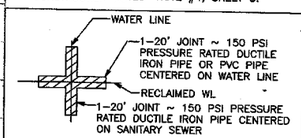
* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES, OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CL CURVE DATA (26)
PC= 8+06.97
Δ= 54°27'46"
R= 255.04'
L= 242.43'
PT= 10+49.40

DITCH VA1- FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-3-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 120 OF 154

52149
DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1569
HOUSTON REGION KEY
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/8/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

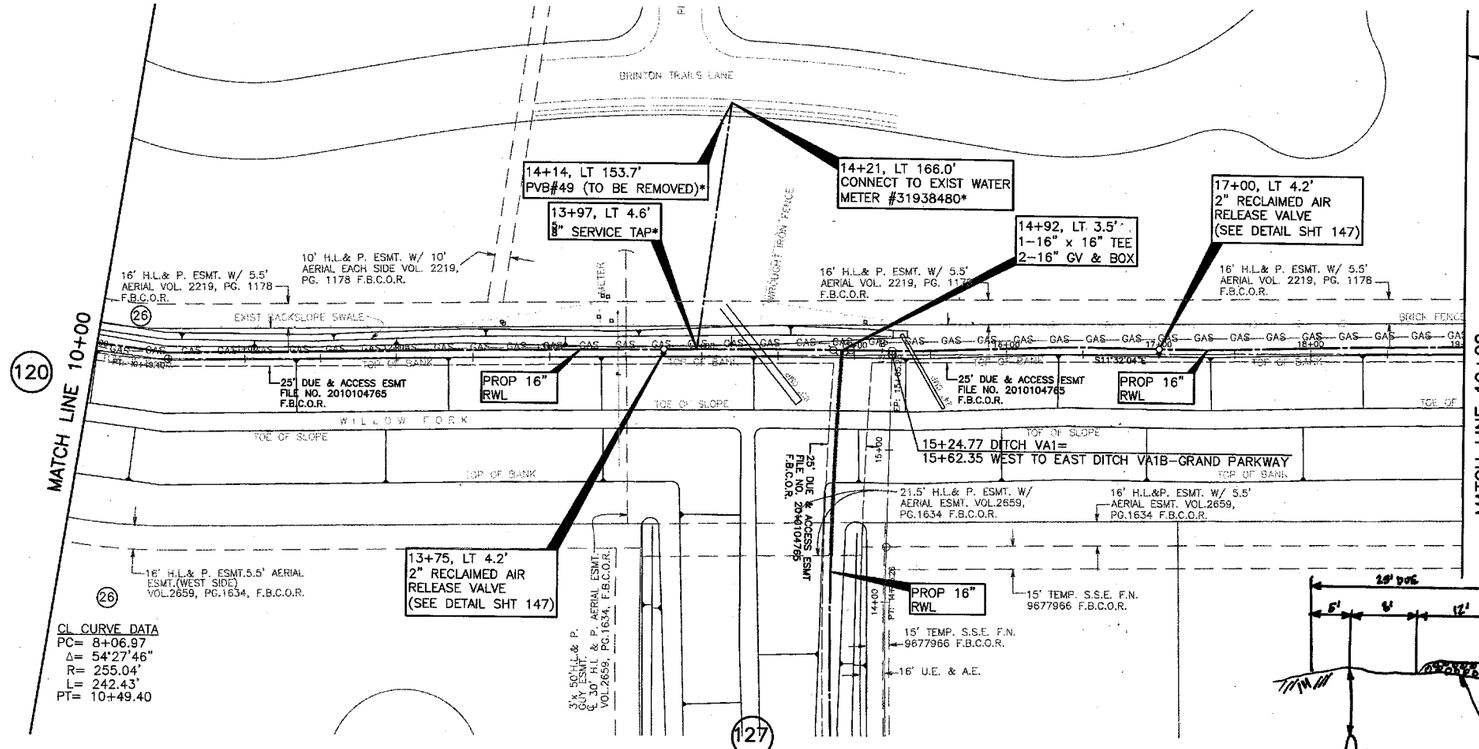
CINCO RANCH RECLAIMED WATER SYSTEM

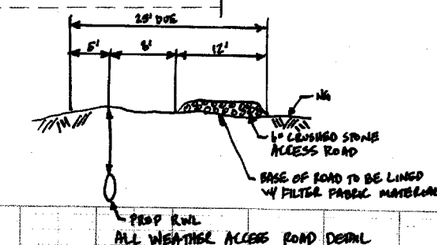
DITCH VA1 (0+00 TO 10+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

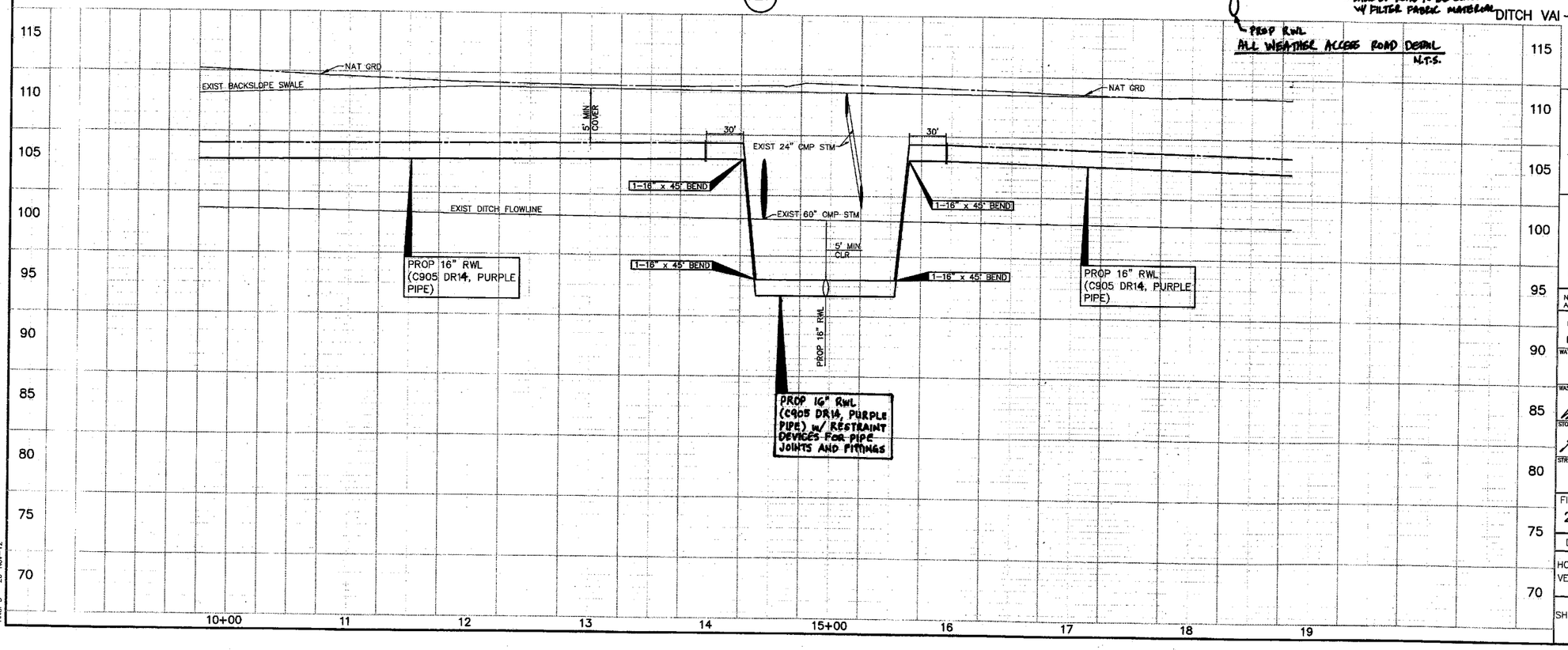
SHEET 120 OF 154

PATH/FILENAME: U:\CINCO\...\P\CINCO P&P--MISC2.DWG
LAST UPDATE: Monday, ...9, 2012 8:36:58 PM
PLOT DATE: Monday, Nov...9, 2012 8:40:51 PM
ANSI D — 19-Nov-12





DITCH VA1 - FORT BEND



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
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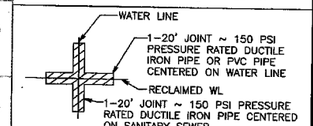
NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: Bob Shook 4.2.14	TRAFFIC & TRANSPORTATION
WASTEWATER: 4-8-14	STORM WATER QUALITY
STORM: 4.15.14	FACILITIES: 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 121 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

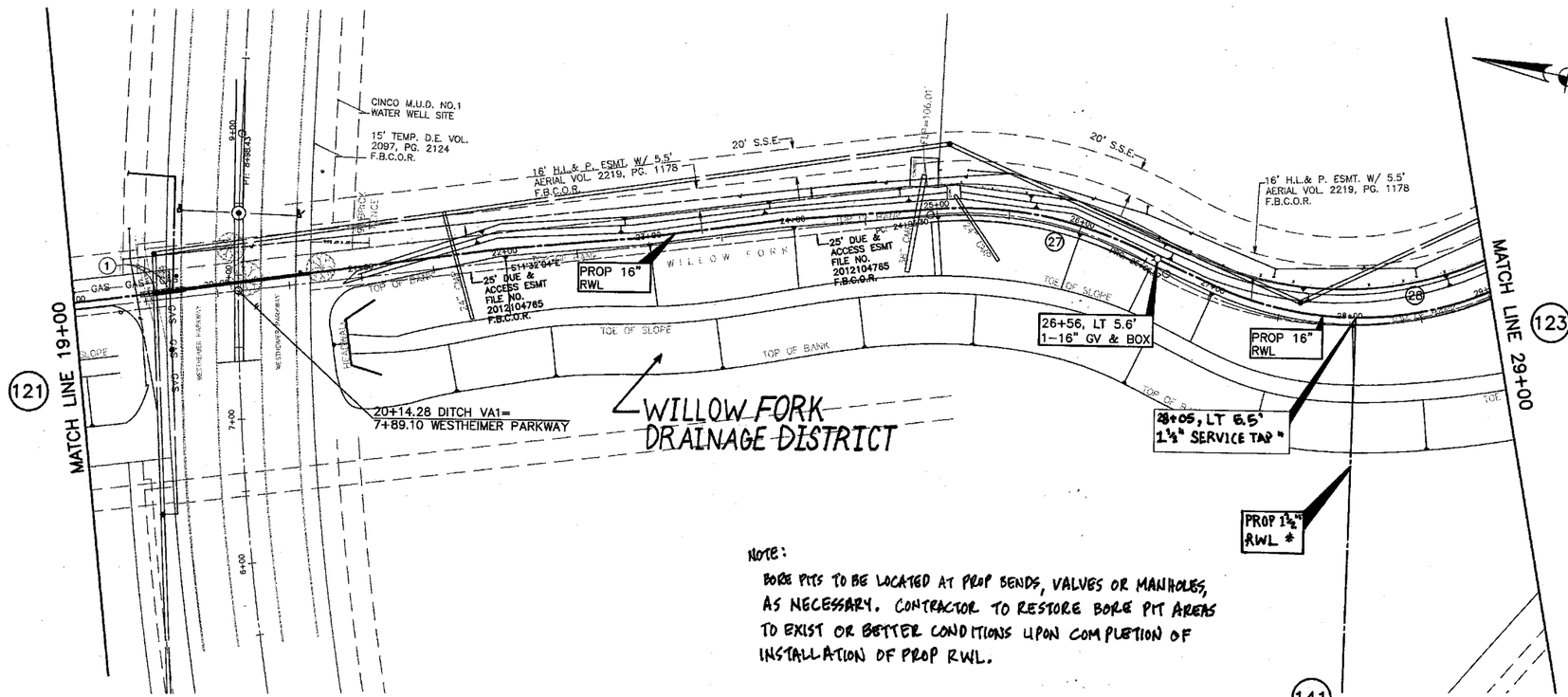
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
DITCH VA1 (10+00 TO 19+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 121 OF 154

ANSI D - 20-Nov-12



NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CAUTION:
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EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

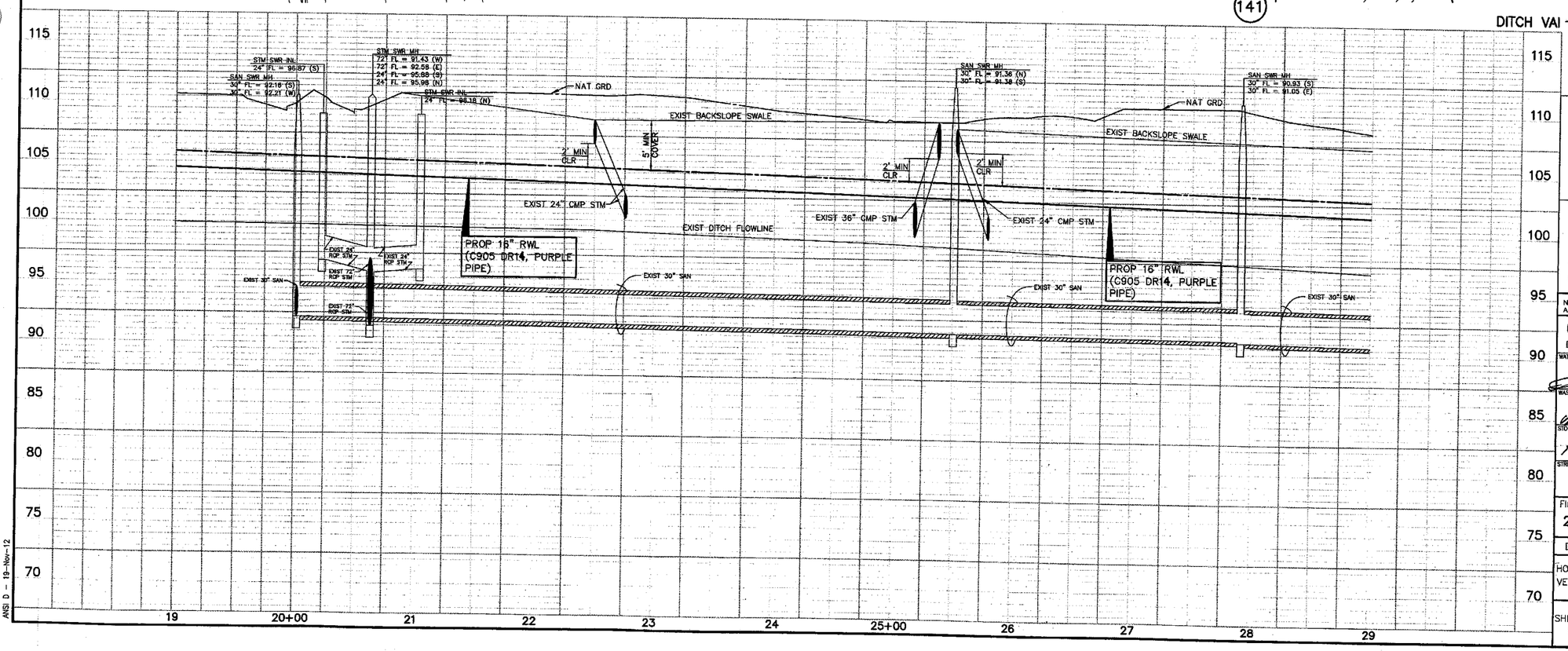
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

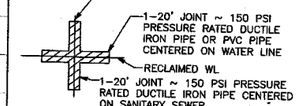
IN ALL AREAS WHERE 25' DUE EXISTS, A MIN 12' ALL WEATHER ACCESS ROAD TO BE CONSTRUCTED IN ACCORDANCE TO THE DETAIL ON SHEET 121 OF 154.

(27) CL CURVE DATA	(28) CL CURVE DATA
PC= 24+95.30	PRC= 26+66.97
Δ= 40°08'48"	Δ= 83°28'43"
R= 245.00'	R= 249.74'
L= 171.67'	L= 363.87'
PRC= 26+66.97	PT= 30+30.84

DITCH VA1 - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
12/31/14	
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.5.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 122 OF 154

52149 PROFESSIONAL ENGINEER DRAWING APPROVED

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

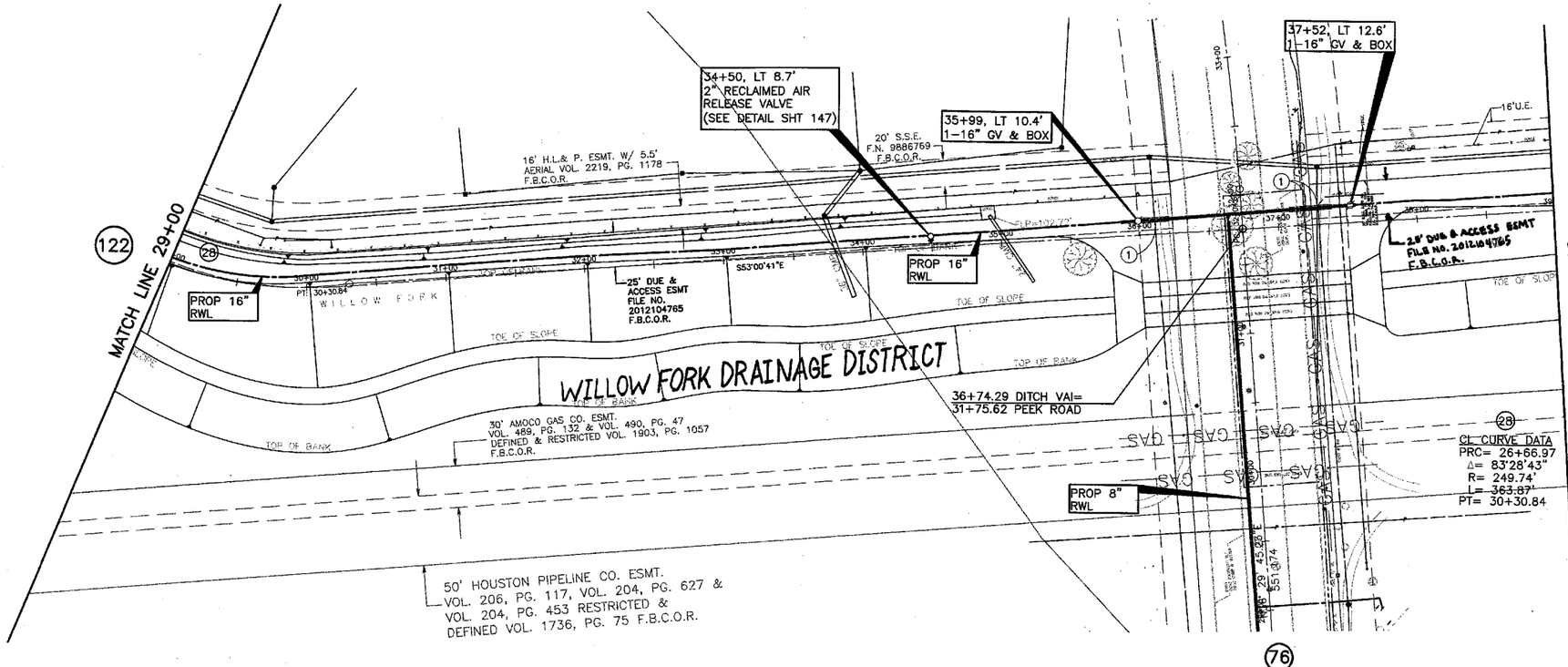
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
DITCH VA1 (19+00X TO 29+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 122 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-MISC2.DWG
LAST UPDATE: Monday, Nov 9, 2012 8:38:58 PM
PLOT DATE: Monday, Nov 19, 2012 8:42:00 PM
ANSI D - 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

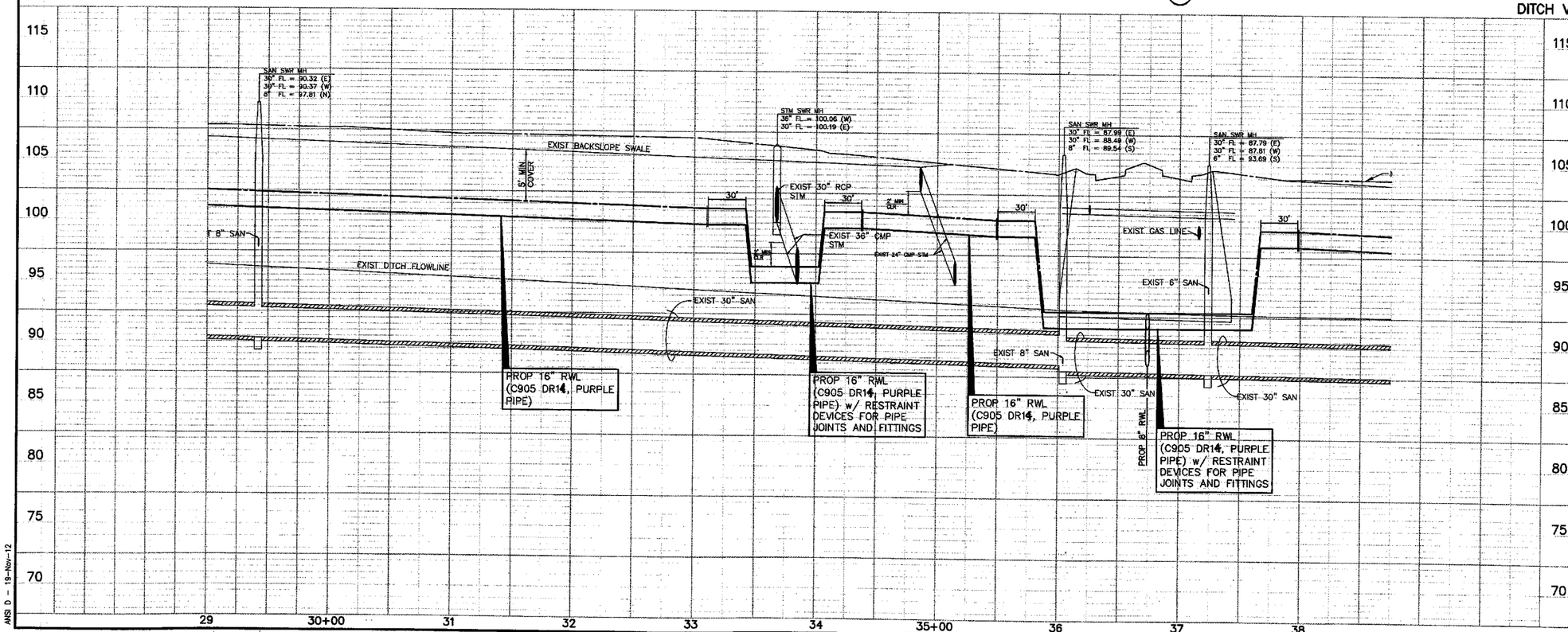
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

IN ALL AREAS WHERE 25' DUE &/OR S, & MIN 12' ALL WEATHER ACCESS ROAD TO BE CONSTRUCTED IN ACCORDANCE TO THE DETAIL ON SHEET 121 OF 154.

NOTE:

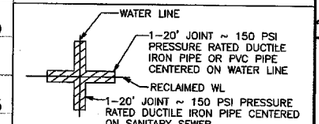
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

DITCH VAI - FORT BEND



NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 123 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101, 77057
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/14

CINCO RANCH RECLAIMED WATER SYSTEM

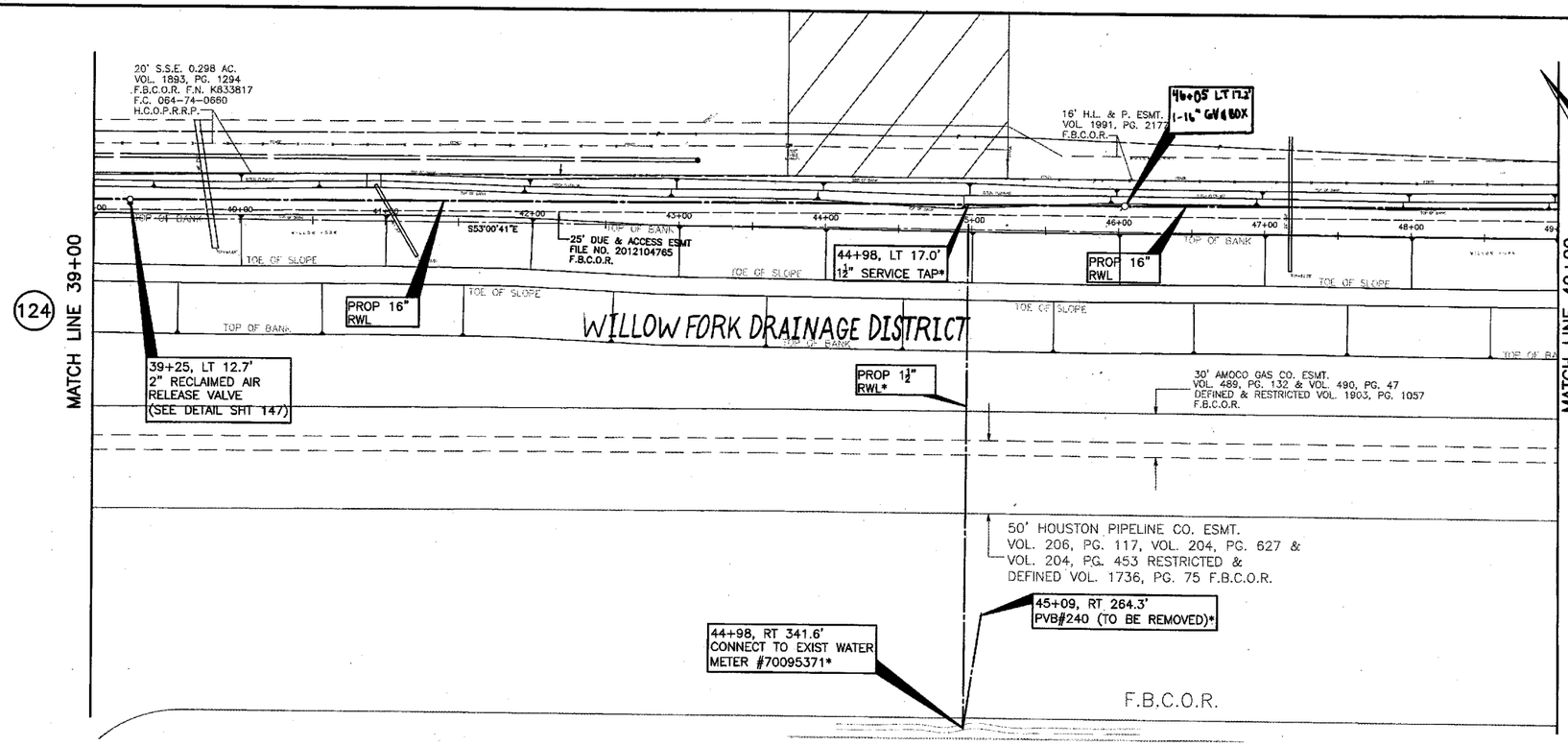
DITCH VAI (29+00 TO 39+00)

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 123 OF 154

PATH/FILENAME: L:\CINCO\...\P&P-MISC2.DWG
LAST UPDATED: Monday, ..., 2012 8:38:58 PM
PLOT DATE: Monday, November ..., 2012 8:42:33 PM
ANSI D — 19-Nov-12



CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

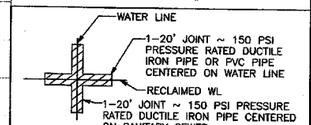
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

IN ALL AREAS WHERE 25' DUE EXISTS, A MIN 12' ALL WEATHER ACCESS ROAD TO BE CONSTRUCTED IN ACCORDANCE TO THE DETAIL ON SHEET 121 OF 154.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

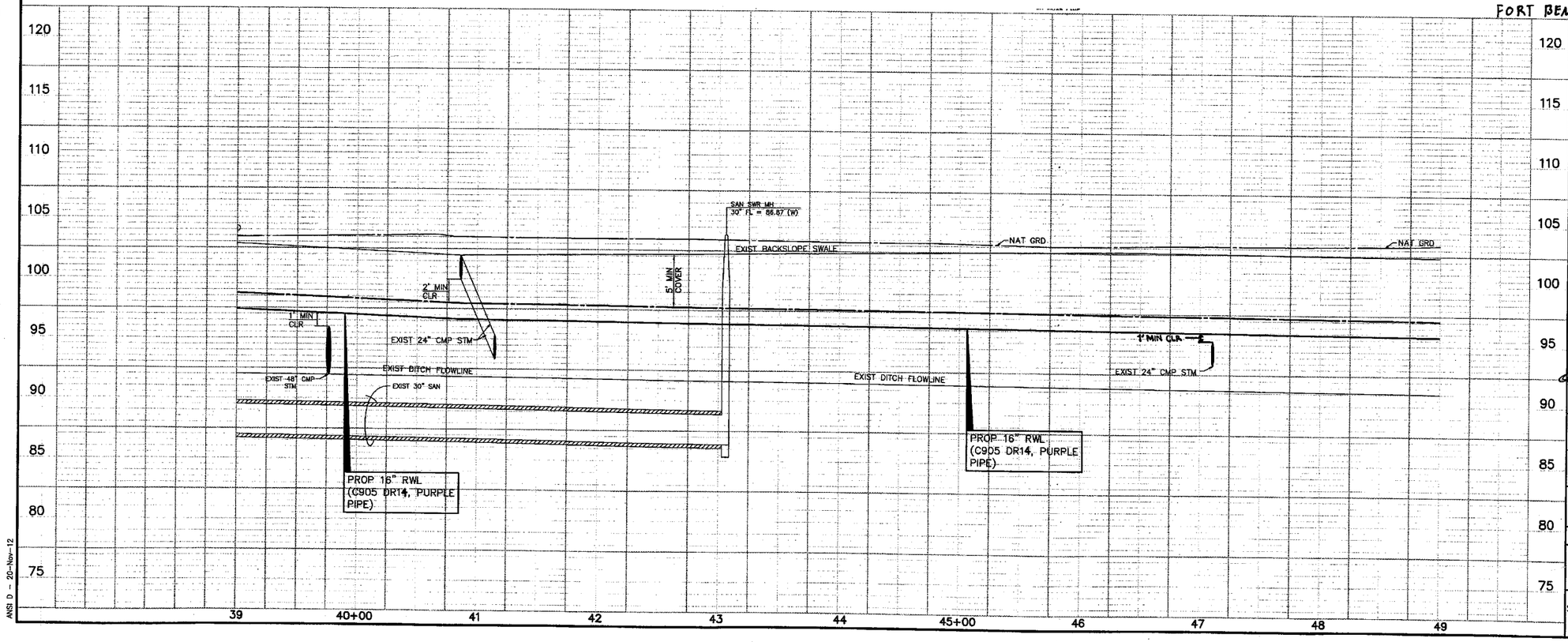
WATER 4-8-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 124 OF 154

52149 CITY DRAWING NUMBER



AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

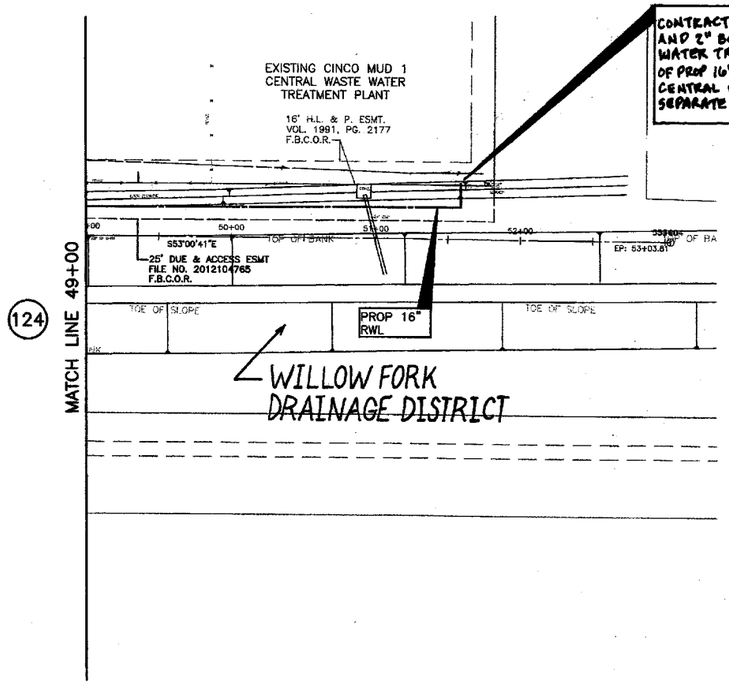
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
DITCH VAI (39+00 TO 49+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 124 OF 154

PATH/FILENAME: L:\DWG\P&P-MISC2.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 7:15:43 AM
PLOT DATE: Tuesday, Nov 20, 2012 7:22:00 AM
ANSI D - 20-Nov-12



CAUTION:
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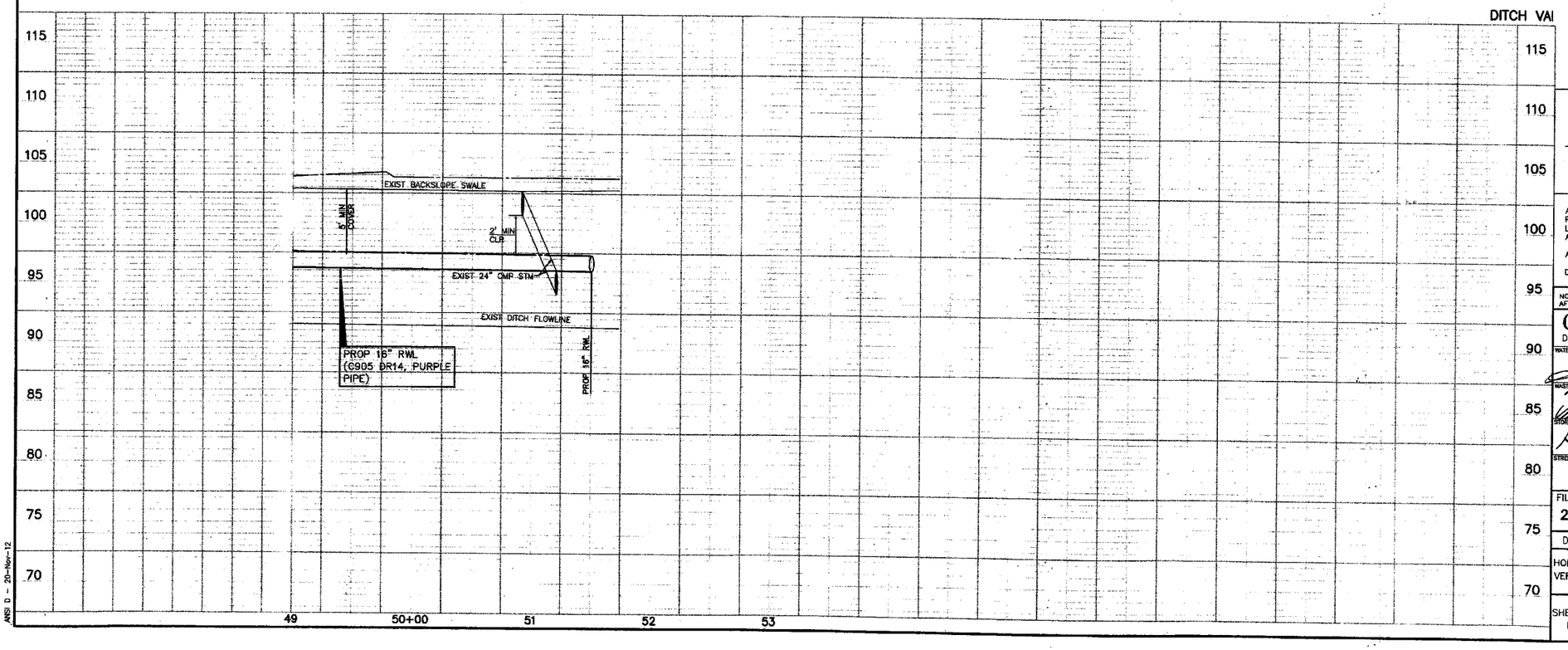
IN ALL AREAS WHERE 25' DUE EXISTS, A MIN 12' ALL WEATHER ACCESS ROAD TO BE CONSTRUCTED IN ACCORDANCE TO THE DETAIL ON SHEET 121 OF 154.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.



NOTE: (1)
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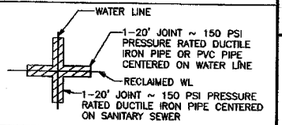

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 9/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-3-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES 4.2.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 125 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO RANCH RECLAIMED WATER SYSTEM

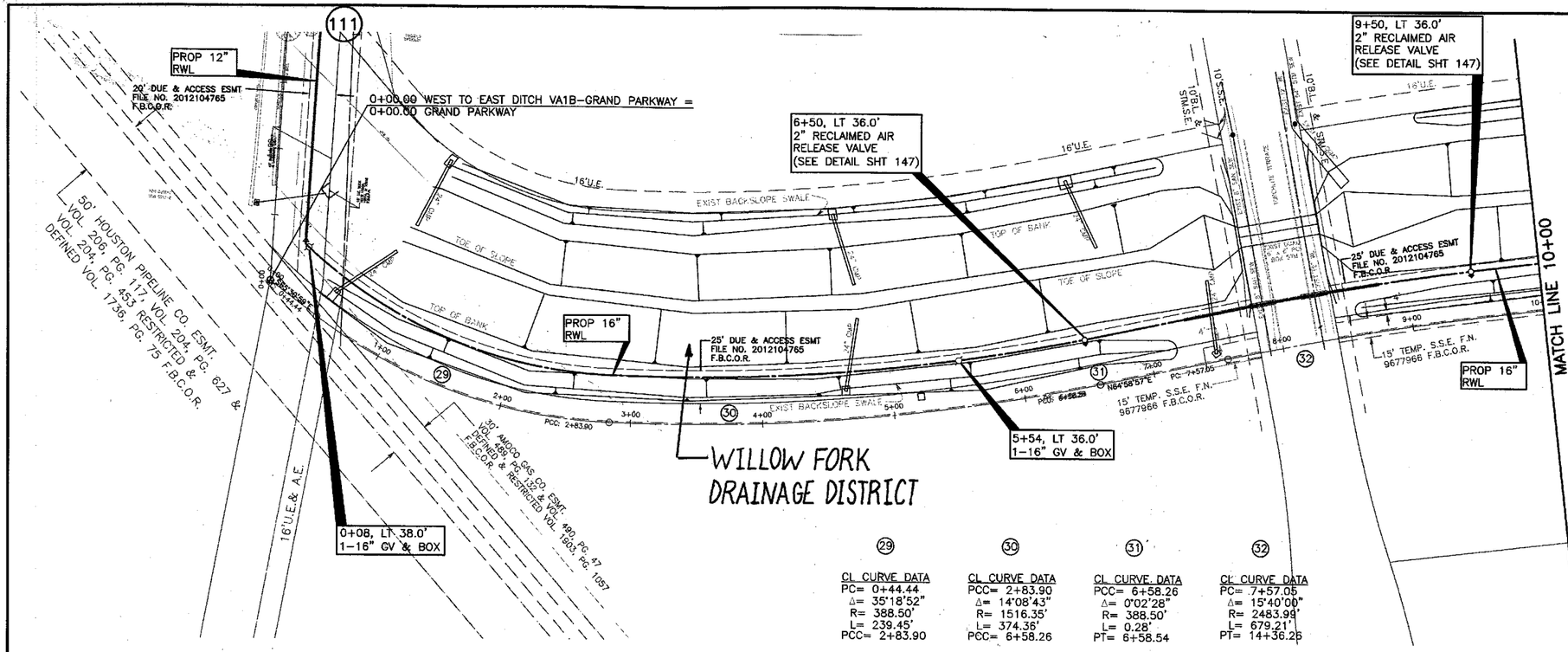
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

DITCH VAI (49+00 TO 58+27)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 125 OF 154

PATH/FILENAME: L:\CINCO\60194689\DWG\P&P-MISC2.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:15:43 AM
PLOT DATE: Tuesday, November 20, 2012 7:22:32 AM
ANSI D - 20-Nov-12



29	30	31	32
CL CURVE DATA	CL CURVE DATA	CL CURVE DATA	CL CURVE DATA
PC= 0+44.44	PCC= 2+83.90	PCC= 6+58.26	PC= 7+57.05
Δ= 35°18'52"	Δ= 14°08'43"	Δ= 0°02'28"	Δ= 15°40'00"
R= 388.50'	R= 1516.35'	R= 388.50'	R= 2483.99'
L= 239.45'	L= 374.36'	L= 0.28'	L= 679.21'
PCC= 2+83.90	PCC= 6+58.26	PT= 6+58.54	PT= 14+36.26

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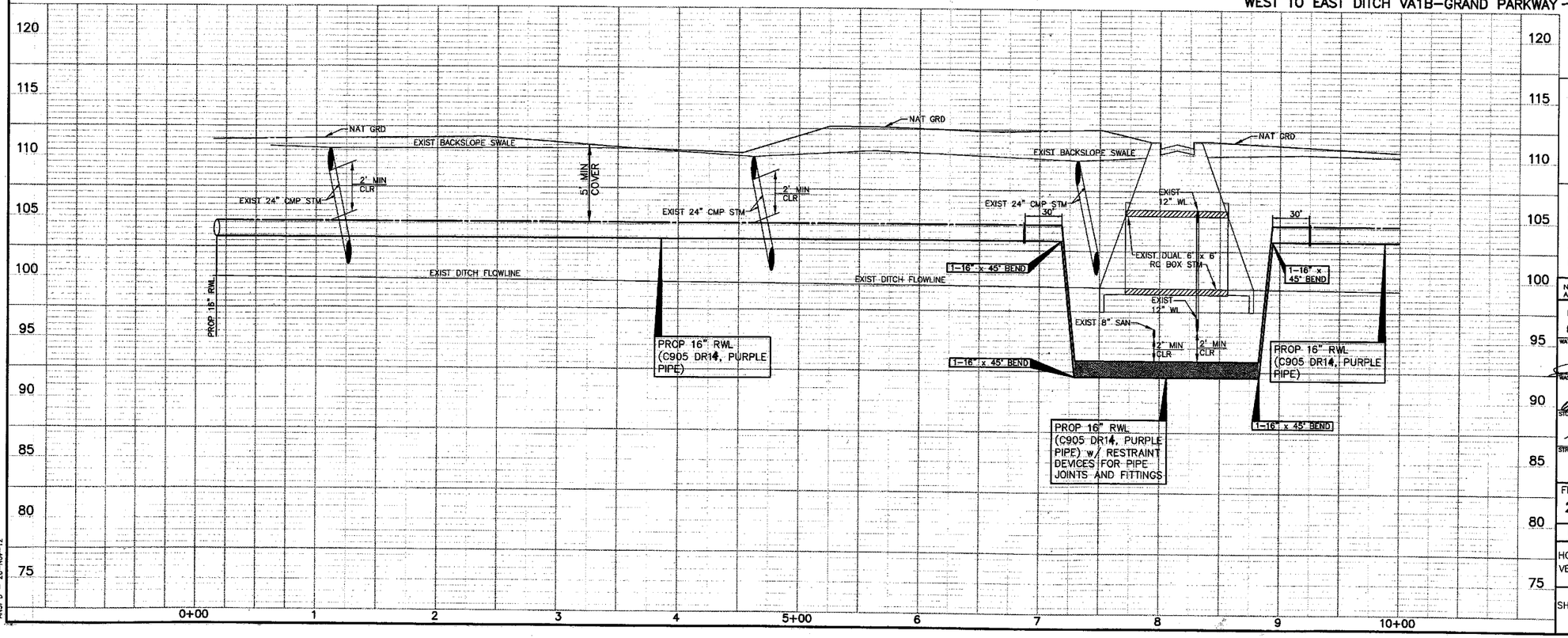
WEST TO EAST DITCH VA1B–GRAND PARKWAY - FORT BEND



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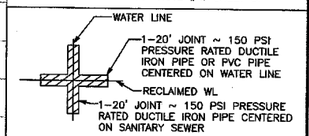

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 3/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 3-13-14	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-5-14	FACILITIES 4-3-14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'
SHEET No: 126 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194869, CONTRACT NO. 1

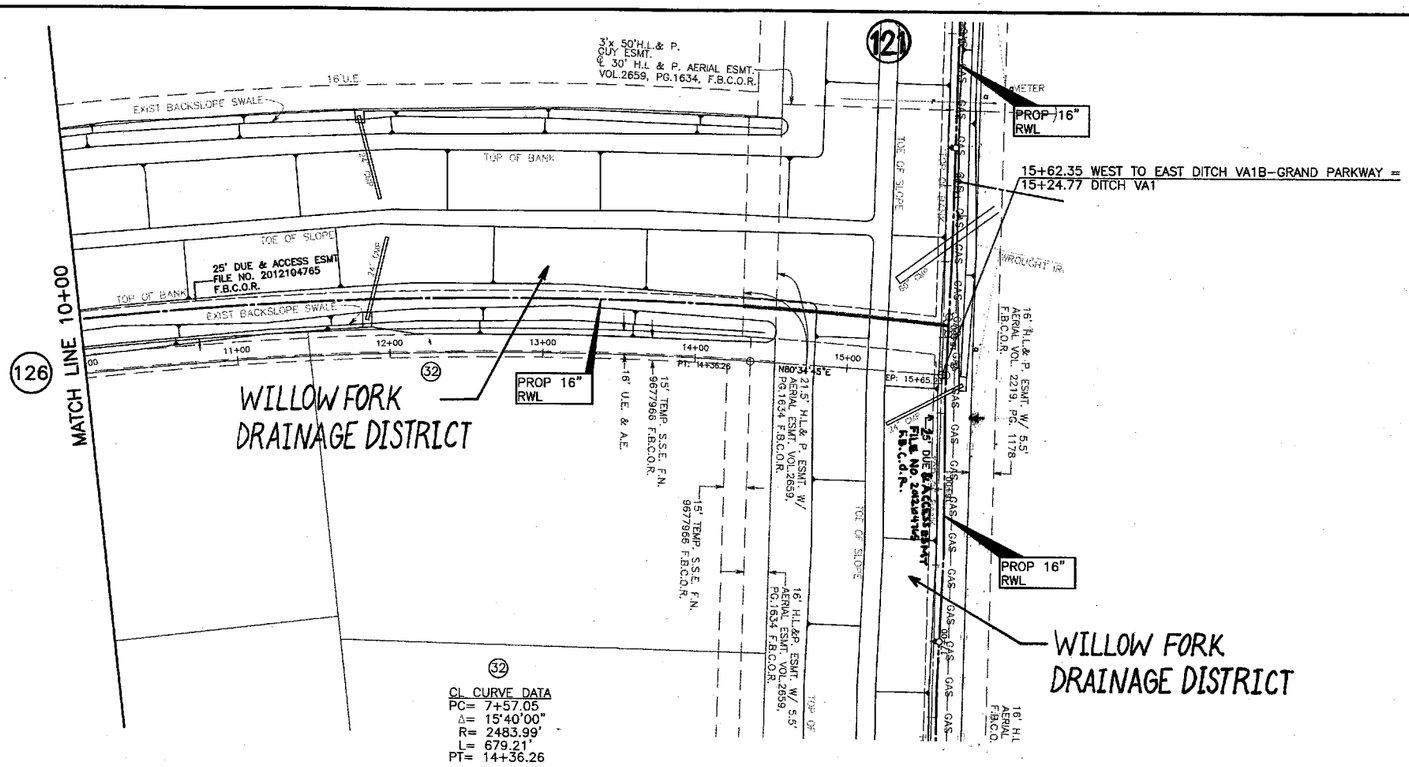
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
12/20/12

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
DITCH VA1B (0+00 TO 10+00)

PROJECT NO:	60194869 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 126 OF 154

PATH/FILENAME: L:\CIVIL\60194869\WSD\DWG\P&P-MISC2.DWG
LAST UPDATE: Tuesday, November 20, 2012 8:11:51 AM
PLOT DATE: Tuesday, November 20, 2012 8:12:36 AM
ANSI D – 20-Nov-12



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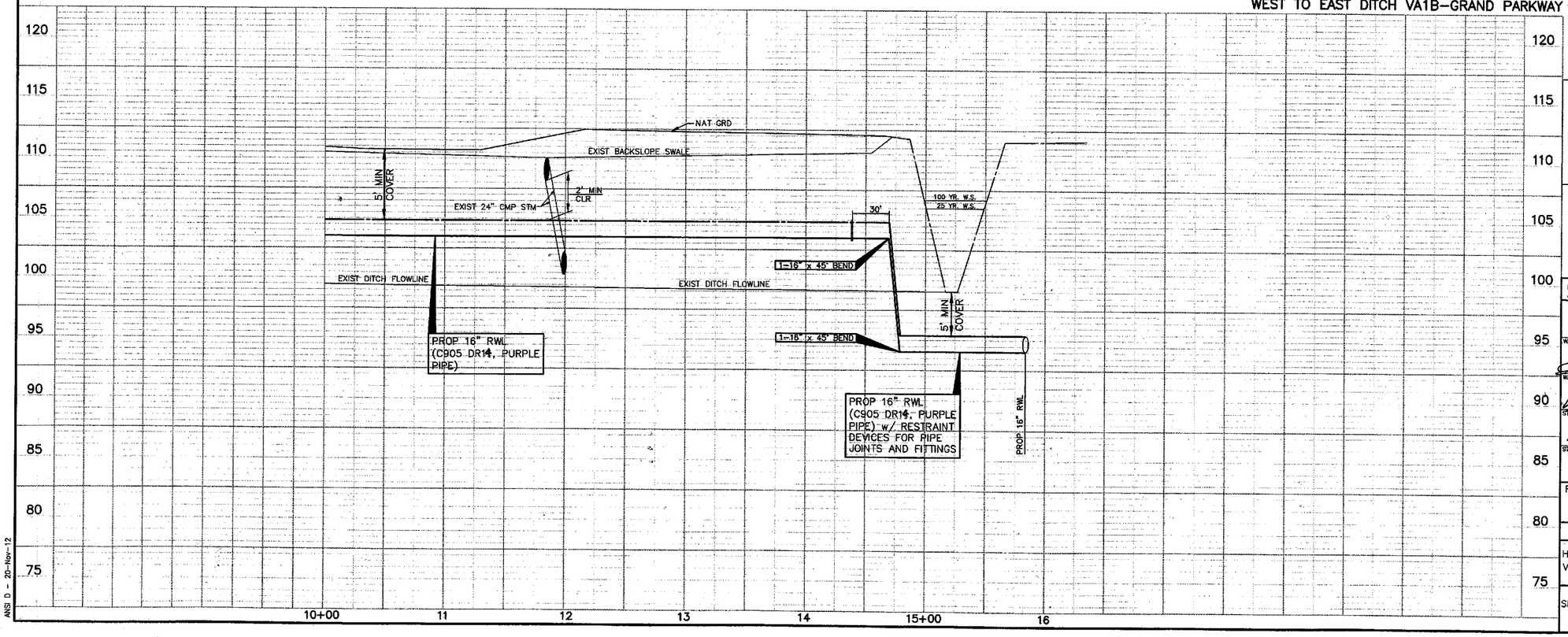
WEST TO EAST DITCH VA1B–GRAND PARKWAY - FORT BEND



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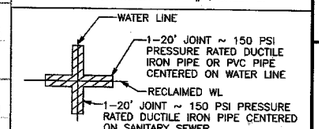

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 12-13-13	STORM WATER QUALITY 4-8-14
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011–1040

DRAWING SCALE

HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 127 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
WWW.AECOM.COM
TBPE REGS. NO. F–5580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

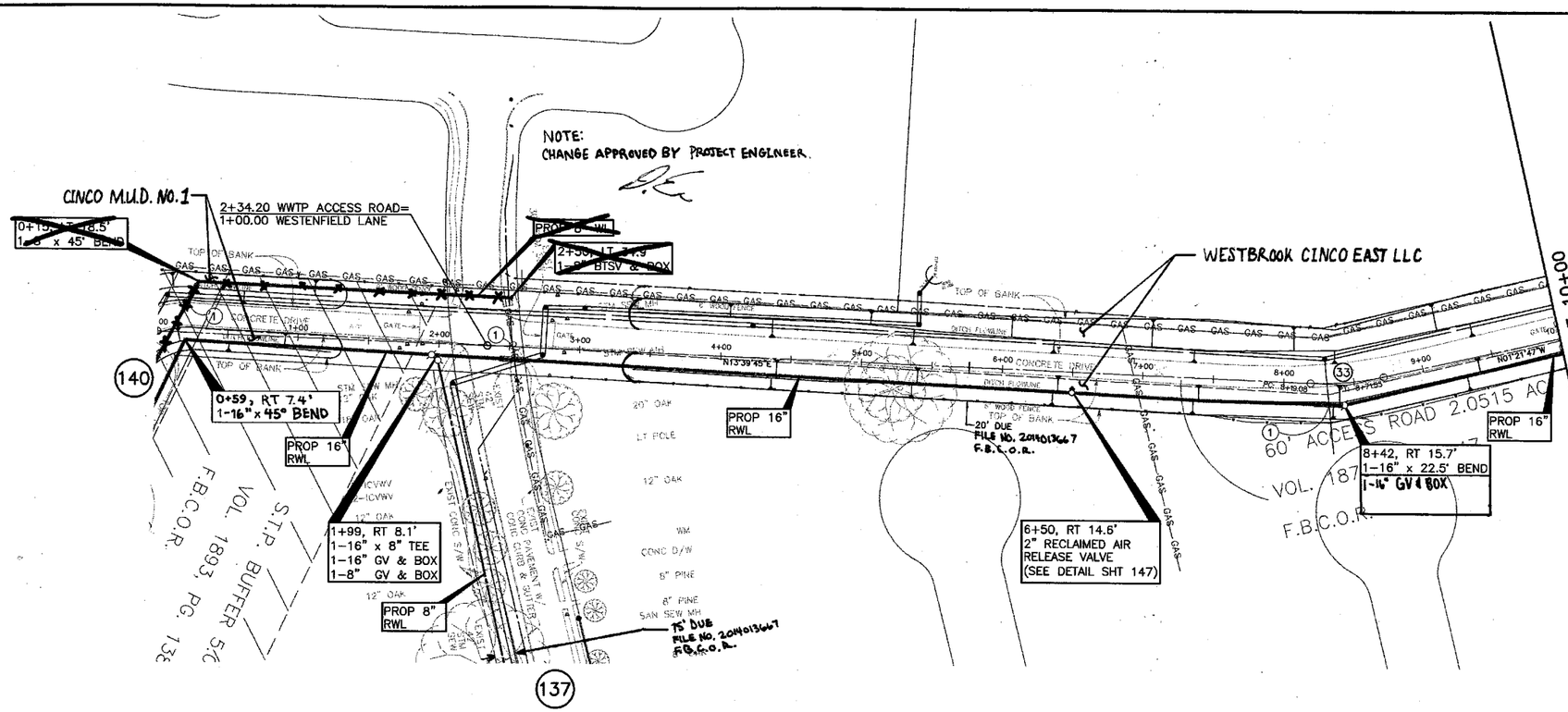
CINCO RANCH RECLAIMED WATER SYSTEM

DITCH VA1B (10+00 TO 16+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 127 OF 154

PATH/FILENAME: L:\CINCO\9\DWG\P&P–MISC2.DWG
LAST UPDATE: Tuesday, November 20, 2012 8:23:33 AM
PLOT DATE: Tuesday, November 20, 2012 8:23:35 AM
ANSI D – 20–Nov–12



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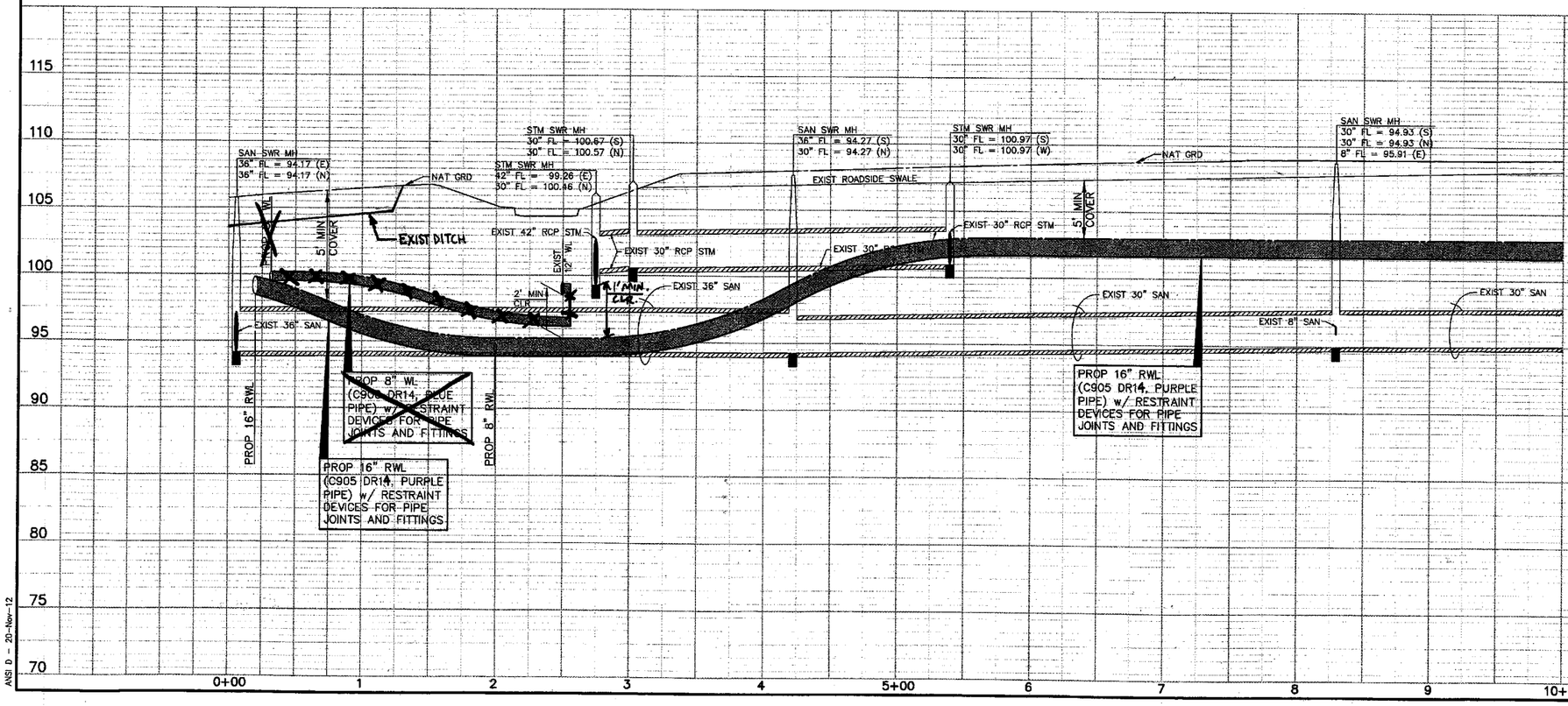
CL CURVE DATA
PC= 8+19.08
Δ= 15°01'32"
R= 200.00'
L= 52.45'
PT= 8+71.53

WWTP ACCESS ROAD - FORT BEND



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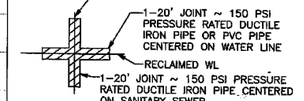

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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/6/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	12.13.12	TRAFFIC & TRANSPORTATION	
WASTEWATER	5-8-14	STORM WATER QUALITY	
STORM	4.15.14	FACILITIES	4.3.14
STREET & BRIDGE			

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 128 OF 154

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
4/2/12

52149
GIT - DRAWING INCLUDED

NO.	DATE	MADE BY	APPROVED	REVISIONS DESCRIPTION

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

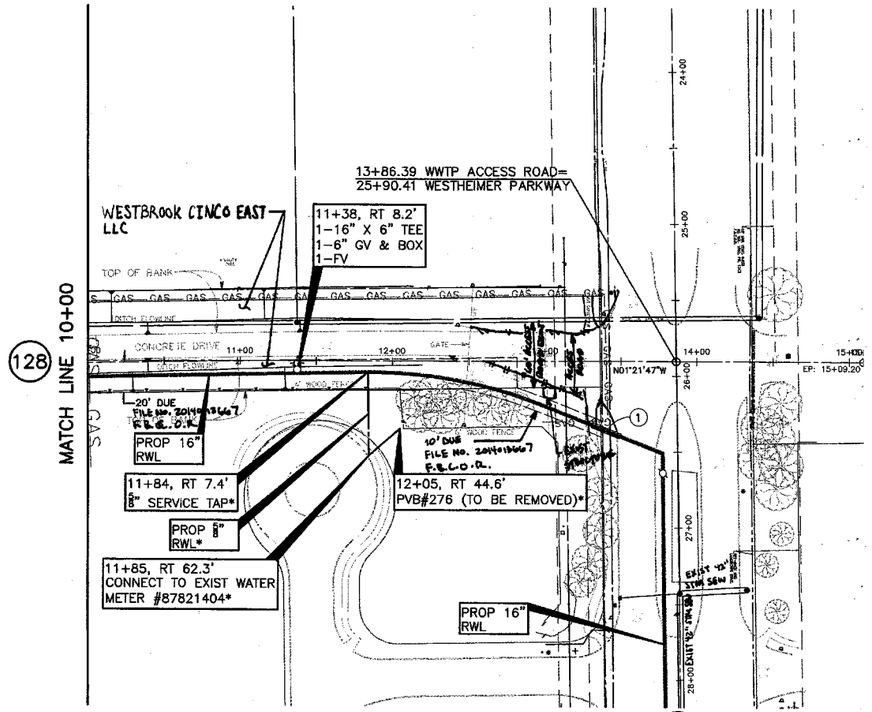
PROJECT NO. 60194689, CONTRACT NO. 1

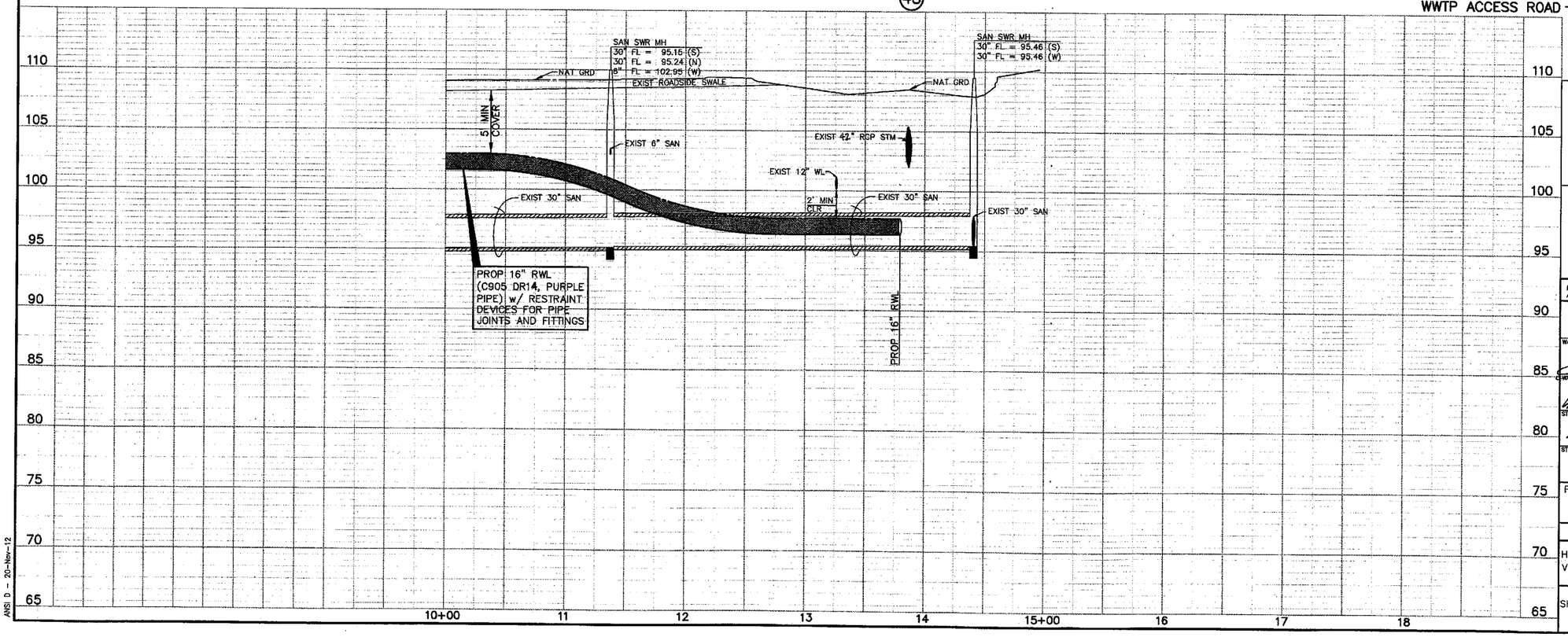
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
WWTP ACCESS ROAD (0+00 TO 10+00)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 128 OF 154

PATH/FILENAME: L:\CINCO\WWTP\P&P-MISC2.DWG
LAST UPDATE: Tuesday, Nov 20, 2012 8:33:30 AM
PLOT DATE: Tuesday, Nov 20, 2012 8:33:30 AM
ANSI D - 20-Nov-12





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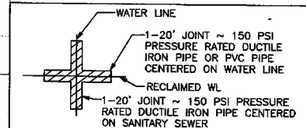

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DATE 5/14/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	12.13.13	TRAFFIC & TRANSPORTATION
WASTEWATER	4-8-14	STORM WATER QUALITY
STORM	4.15.14	FACILITIES
STREET & BRIDGE		4.3.14

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 129 OF 154

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194569, CONTRACT NO. 1

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

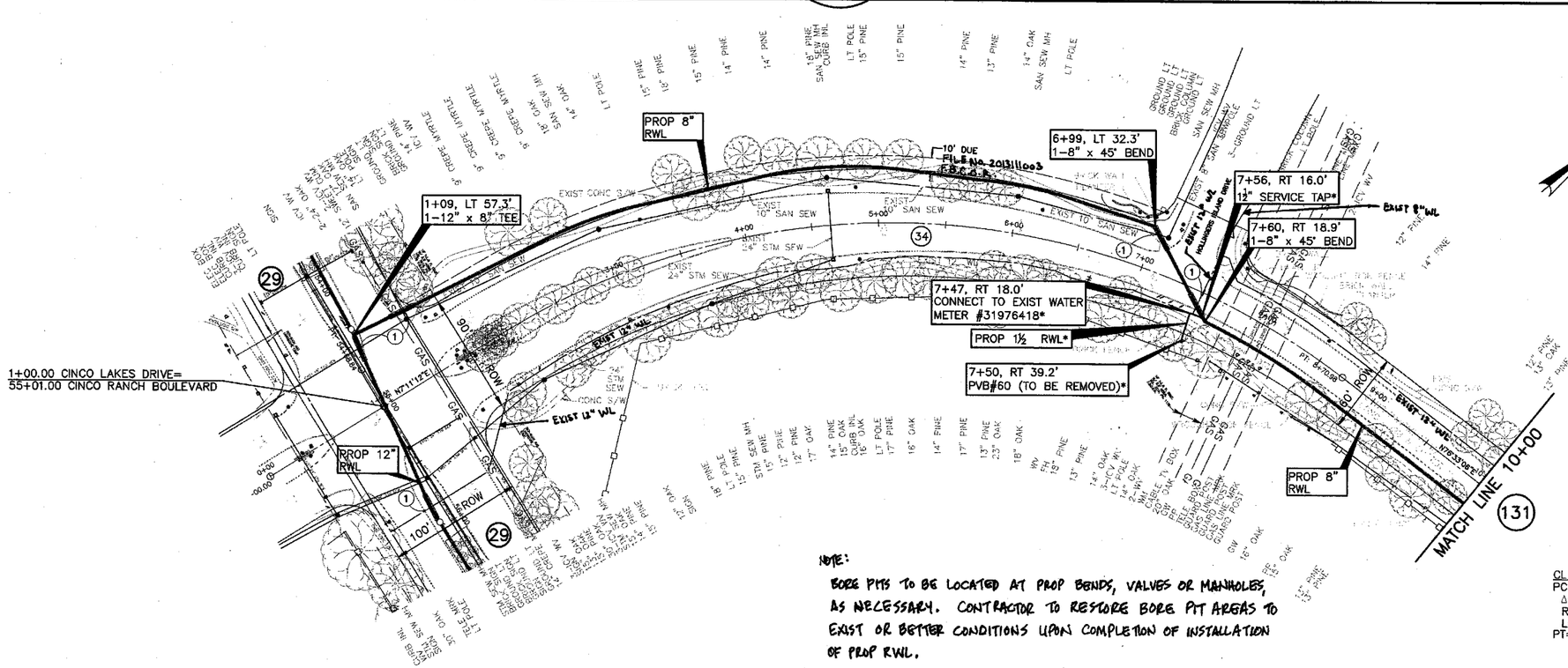
CINCO RANCH RECLAIMED WATER SYSTEM

WWTP ACCESS ROAD (10+00 TO 15+00)

PROJECT NO:	60194569 (WS0)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 129 OF 154

PATH/FILENAME: L:\DWG\P&P-MISC2.DWG
LAST UPDATE: Tuesday, November 20, 2012 7:52:43 AM
PLOT DATE: Tuesday, November 20, 2012 7:53:02 AM
ANSI D — 20-Nov-12



NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

SEE SHEET 143 FOR PIPELINE APPROVALS.

CAUTION: EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

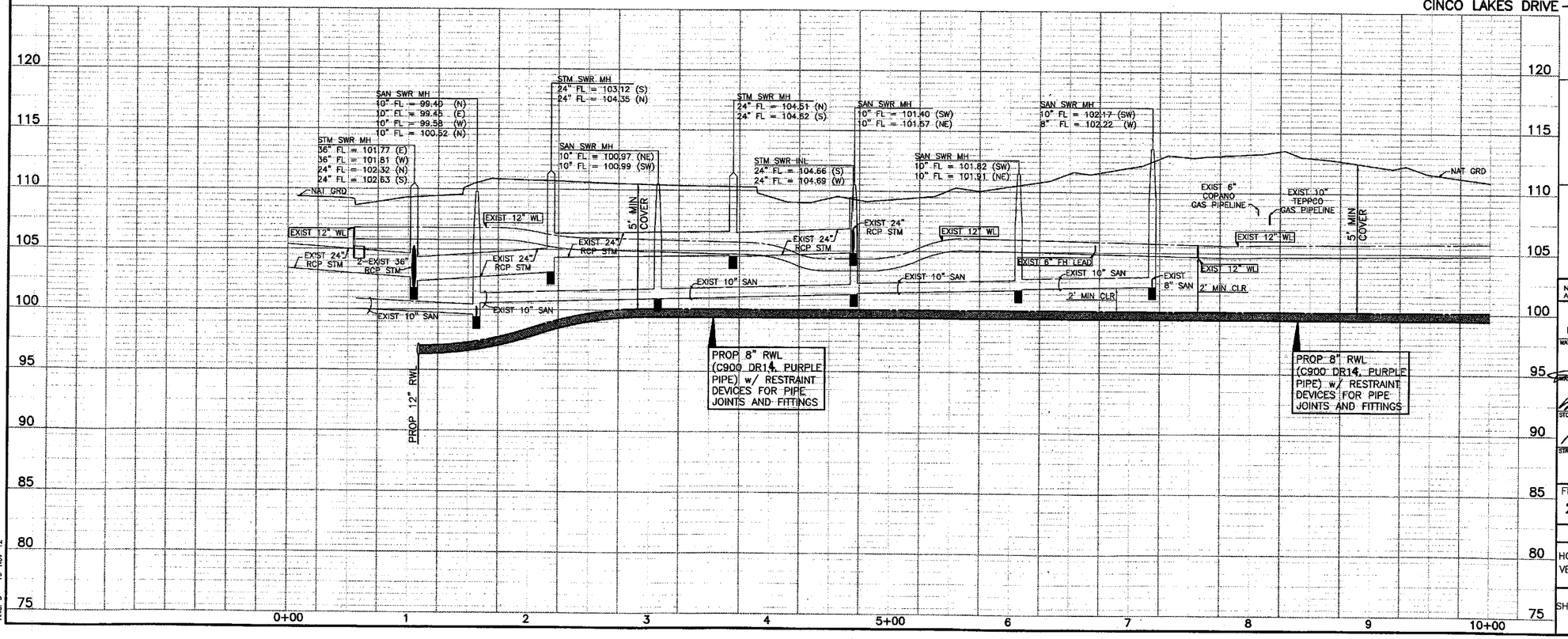
CAUTION: EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

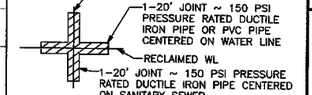
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

CL CURVE DATA
PC= 2+05.12
Δ= 69°21'54"
R= 550.00'
L= 665.86'
PT= 8+70.98

CAUTION: PIPELINE CROSSING! CONTRACTOR TO FOLLOW ALL APPLICABLE GUIDELINES FOR COPANO PIPELINE AND ENTERPRISE PRODUCTS PIPELINE AS SHOWN ON SHEET 3 OF 154, AND SHEET 143 OF 154 RESPECTIVELY.



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jared Hunt 4.2.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 130 OF 154

52149 LICENSED PROFESSIONAL ENGINEER

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 130 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

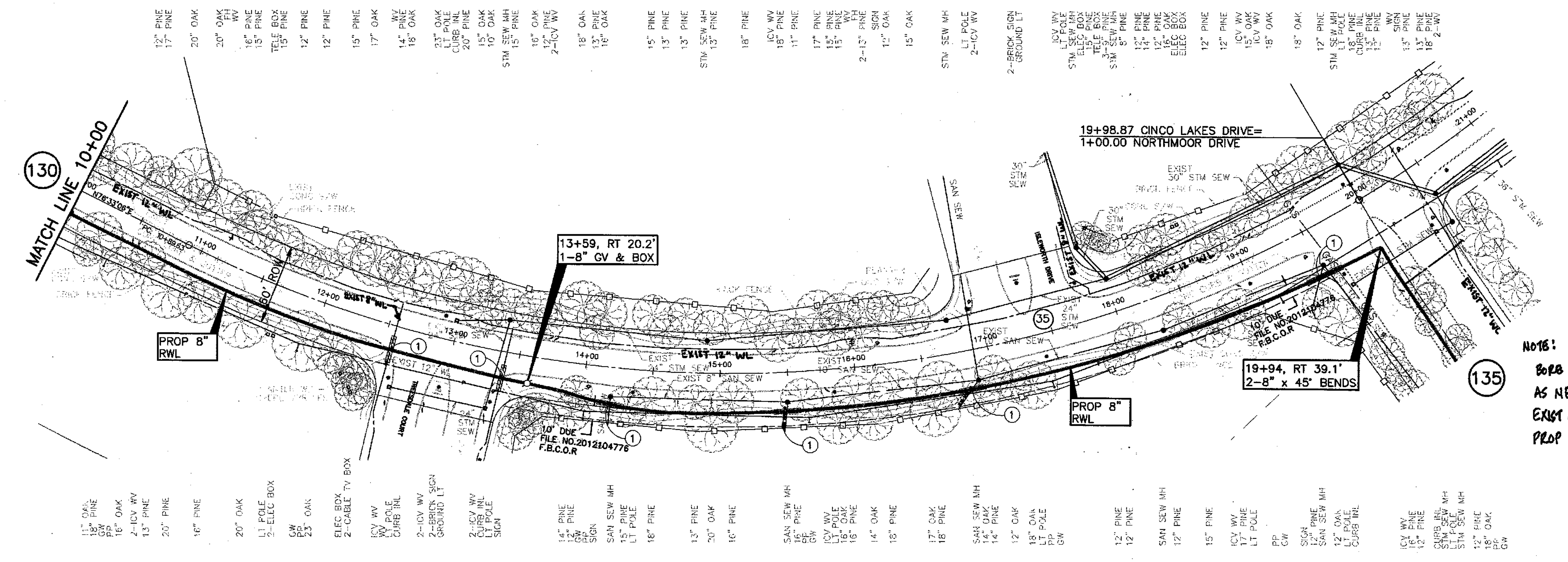
CINCO LAKES DRIVE (0+00 TO 10+00)

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

PATH/FILENAME: L:\CINCO\...\DWG\P&P-MISC.DWG
LAST UPDATE: Monday, November 19, 2012 7:55:57 PM
PLOT DATE: Monday, November 19, 2012 7:57:16 PM
ANSI D - 19-Nov-12

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.



LEGEND

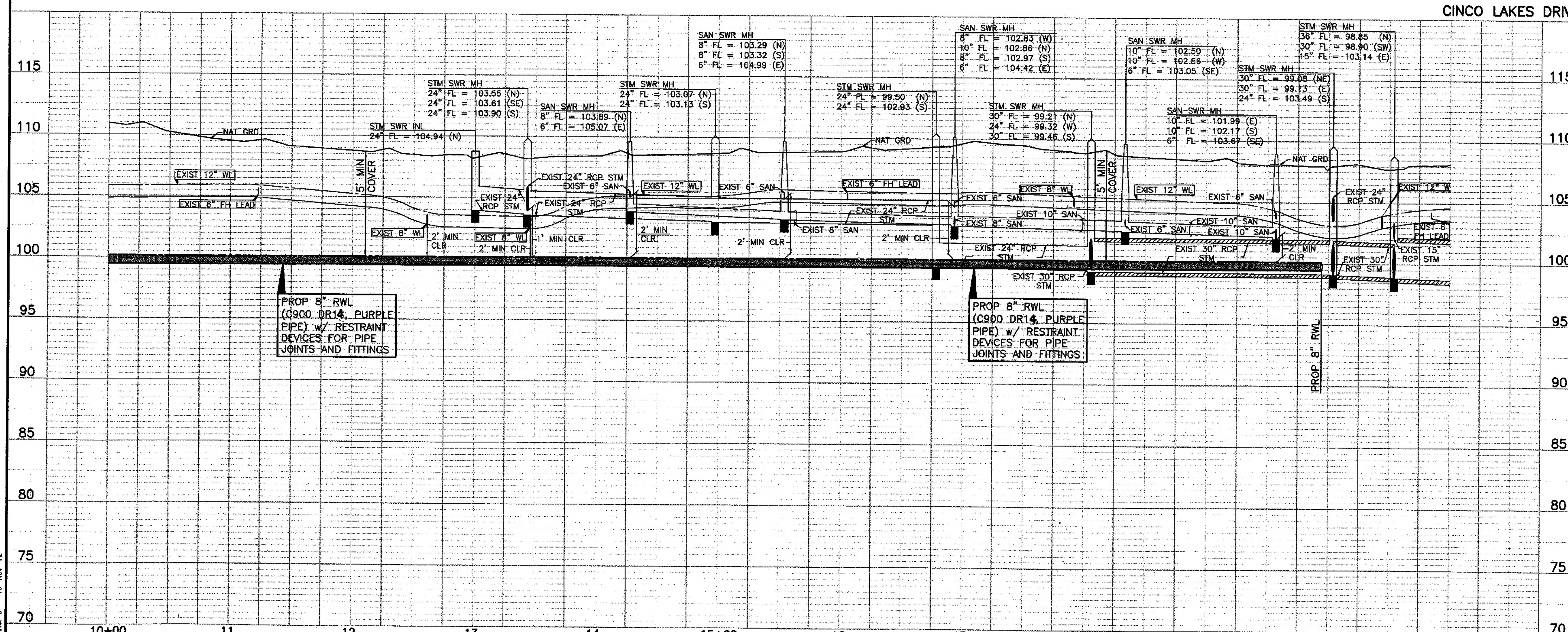
(heavy line)	PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
(dashed line)	PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
(symbol)	PRESSURE VACUUM BREAKER (PVB)
•	POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
*	DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:

BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL. (35)

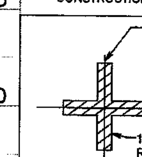
CL CURVE DATA
PC= 10+89.63
Δ= 78°42'50"
R= 899.99'
L= 1236.42'
PT= 23+26.05

CINCO LAKES DRIVE - FORT BEND



NOTE: (1)

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED [signature] ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER [signature] 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER [signature] 4-8-14	STORM WATER QUALITY
STORM [signature] 4.15.14	FACILITIES [signature] 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 131 OF 154

52149 CITY DRAWING NUMBER

STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 11/21/12

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
REVISIONS				

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

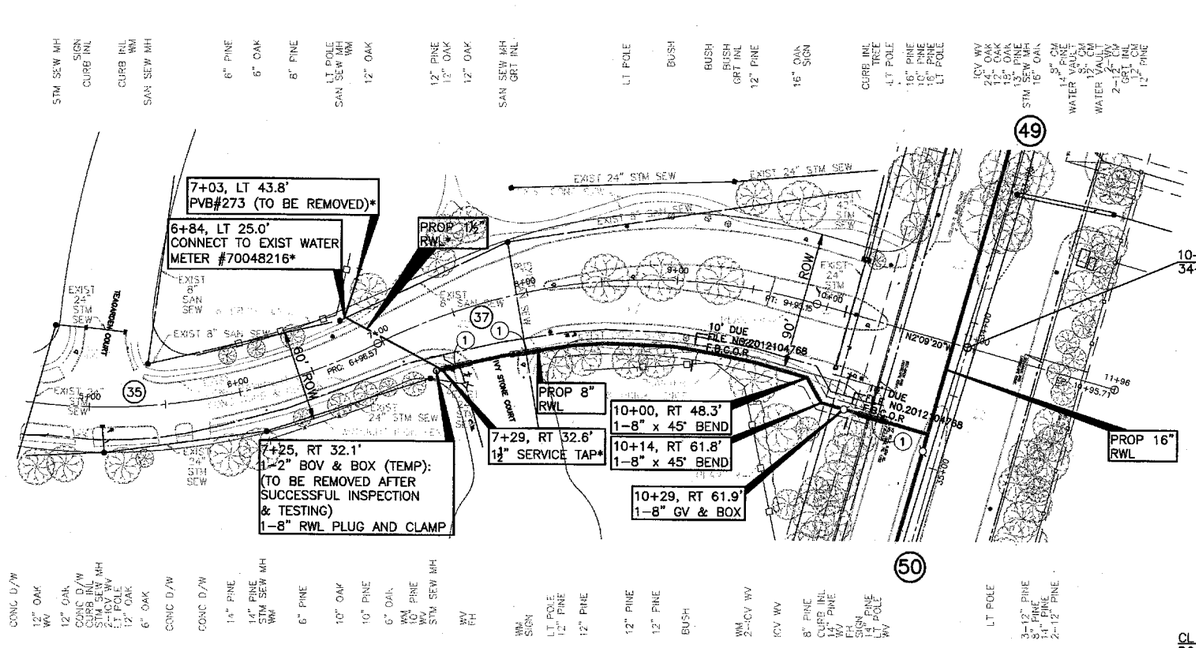
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO LAKES DRIVE (10+00 TO 21+00)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 131 OF 154

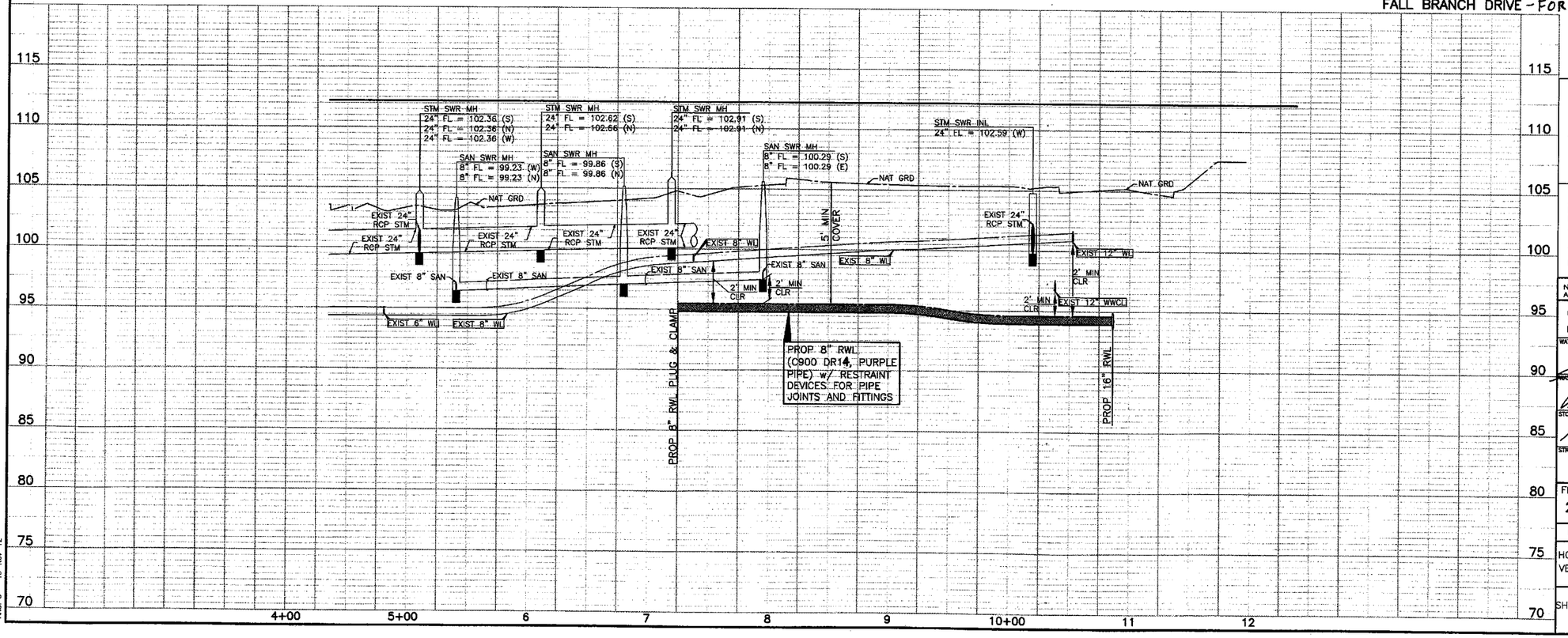
PATH/FILENAME: L:\CINC...59\DWG\P&P-MISC.DWG
LAST UPDATE: Monday, Nov...9, 2012 7:35:57 PM
PLOT DATE: Monday, Nov...9, 2012 7:37:38 PM
ANSI D - 19-Nov-12



CL CURVE DATA
PC= 4+00.00
Δ= 42°28'52"
R= 400.00'
L= 296.57'
PRC= 6+96.57

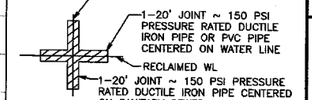
CL CURVE DATA
PRC= 6+96.57
Δ= 42°28'52"
R= 400.00'
L= 296.57'
PT= 9+93.15

FALL BRANCH DRIVE - FORT BEND



NOTE: ①

FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-18-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES Jawad Amb 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 132 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

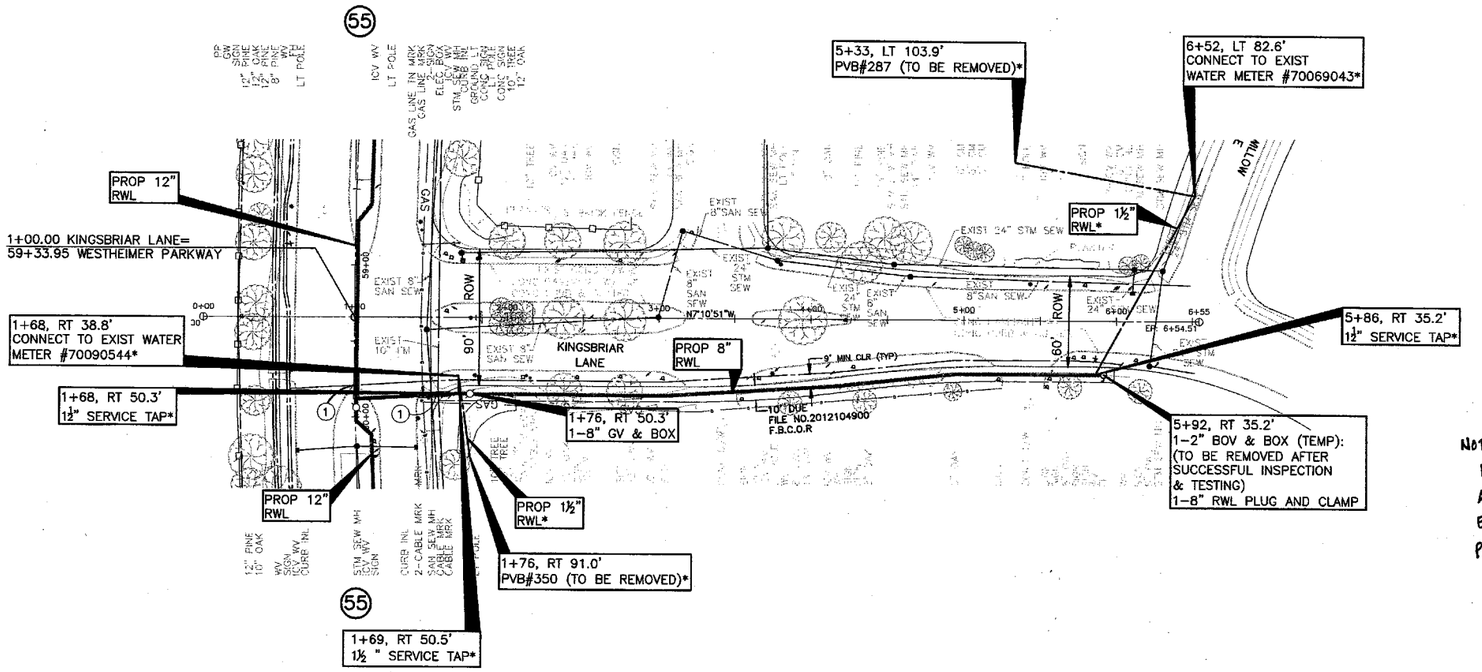
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

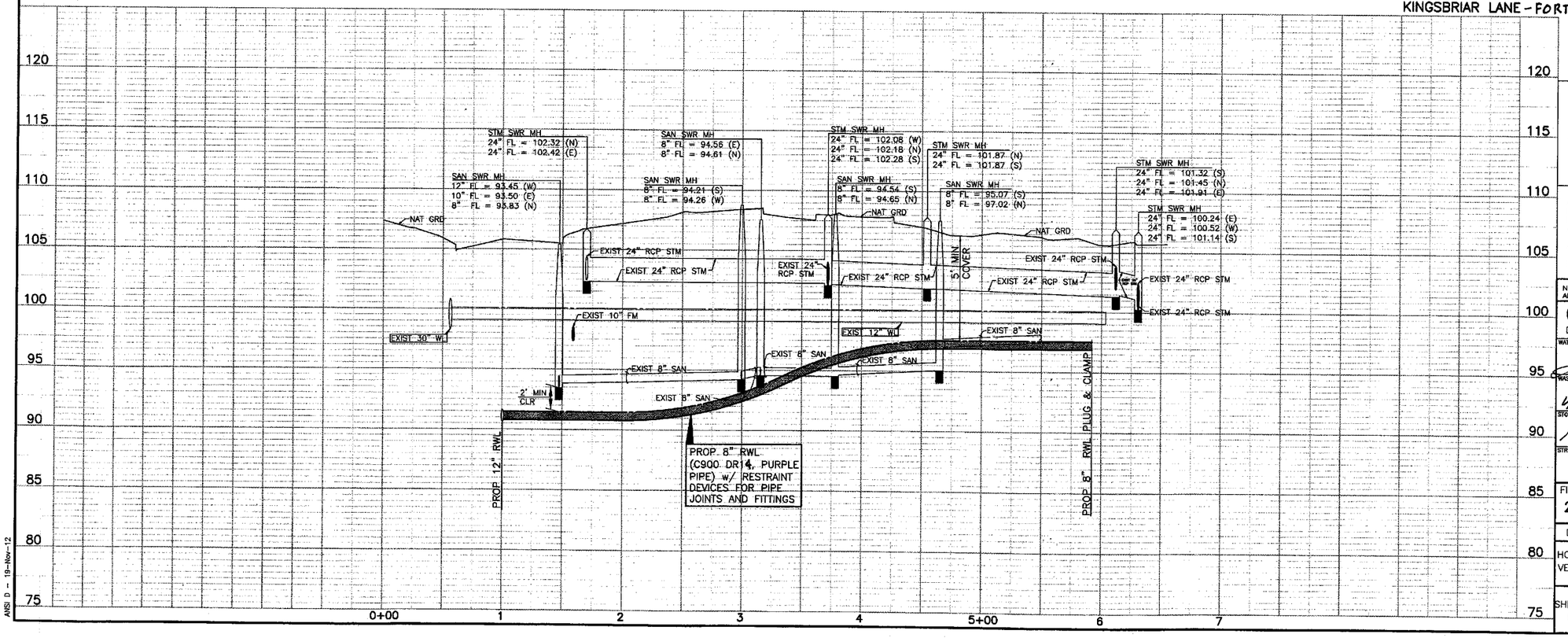
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
FALL BRANCH DRIVE

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 132 OF 154

PATH/FILENAME: L:\CINCO\P&P-MISC.DWG
LAST UPDATE: Monday, November 19, 2012 7:35:57 PM
PLOT DATE: Monday, November 19, 2012 7:36:08 PM
ANSI D - 19-Nov-12





CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
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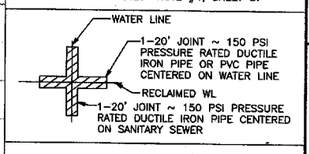
NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/13

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4-15-14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 133 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

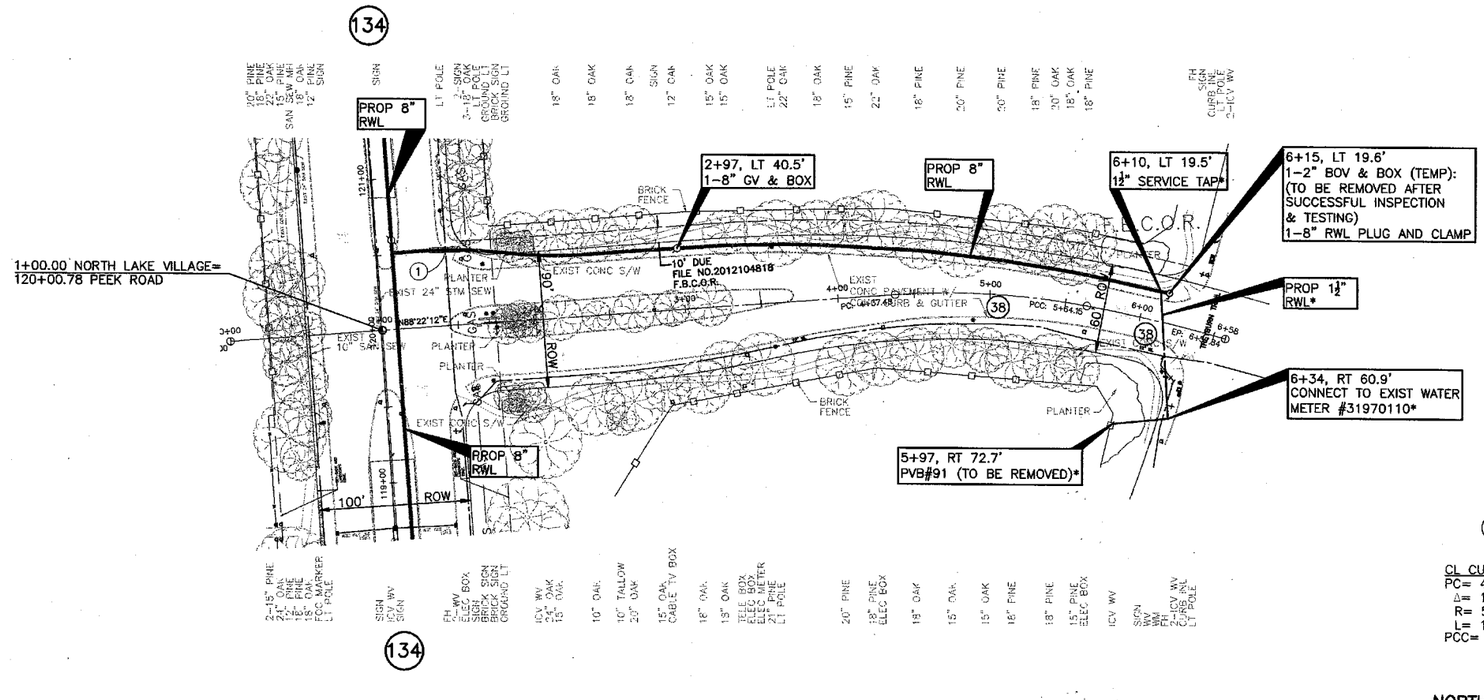
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER

CINCO RANCH RECLAIMED WATER SYSTEM
KINGSBRIAR LANE
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 133 OF 154

PATH/FILENAME: L:\CINCO\P&P-MISC.DWG
LAST UPDATE: Monday, Nov. 19, 2012 8:44:17 PM
PLOT DATE: Tuesday, Nov. 20, 2012 8:44:03 AM
ANSI D - 19-Nov-12



CL CURVE DATA
PC= 4+37.48
Δ= 14°30'55"
R= 500.00'
L= 126.67'
PCC= 5+64.15

CL CURVE DATA
PCC= 5+64.15
Δ= 5°32'03"
R= 970.00'
L= 93.69'
PT= 6+57.84

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

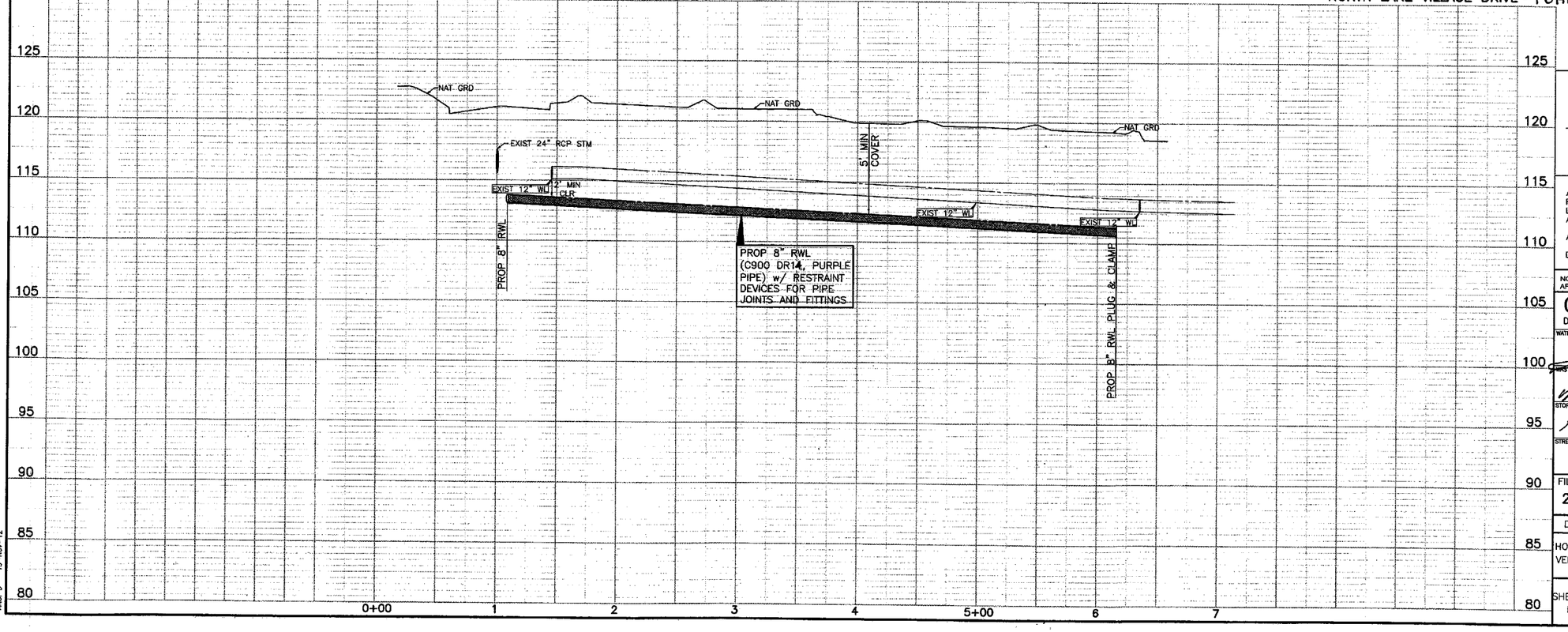
CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

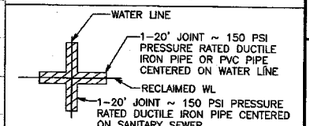
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NORTH LAKE VILLAGE DRIVE - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER SYSTEMS	12-13-13
TRAFFIC & TRANSPORTATION	4-8-14
STORM WATER QUALITY	
STORM	4.15.14
FACILITIES	4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 134 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

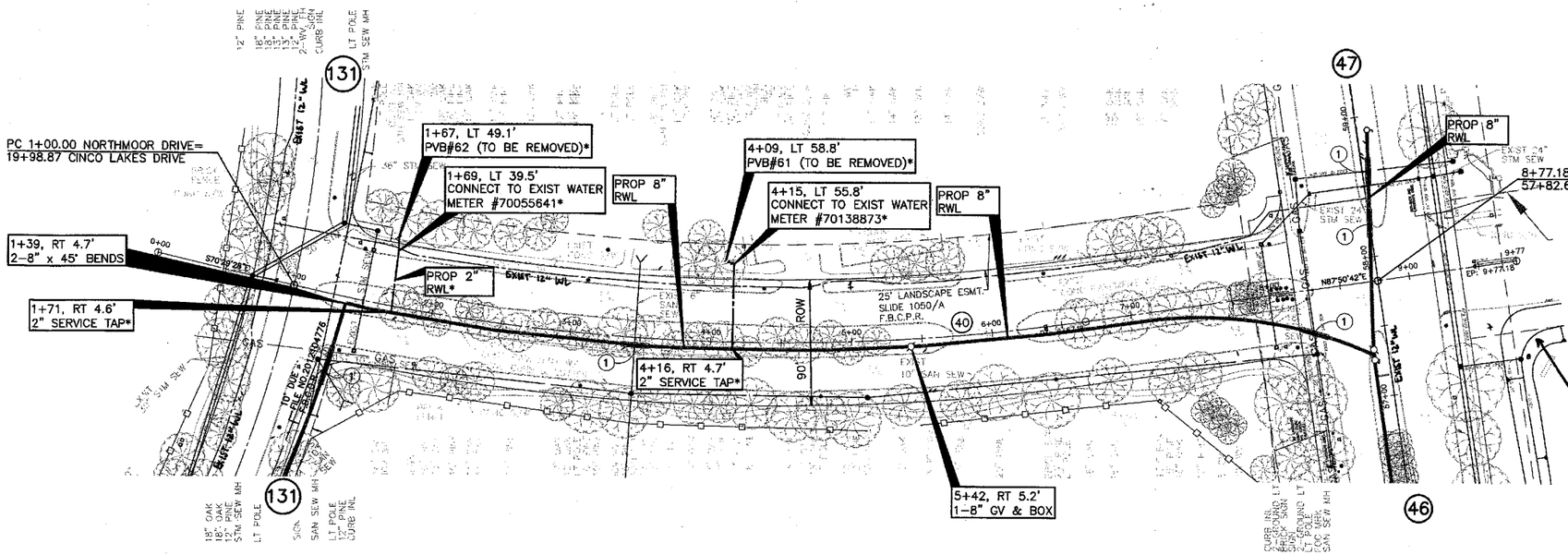
CINCO RANCH RECLAIMED WATER SYSTEM

NORTH LAKE VILLAGE DRIVE

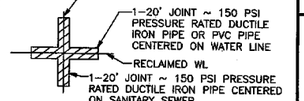
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 134 OF 154

PATH/FILENAME: L:\DWG\P&P-MISC.DWG
LAST UPDATE: Monday, November 19, 2012 8:46:17 PM
PLOT DATE: Tuesday, November 20, 2012 6:44:24 AM
ANSI D - 19-Nov-12



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ DESIGNATED TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Jawad Ahmed 4.7.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'
SHEET No: 135 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

NO.	DESCRIPTION	DATE	MADE BY	APPROVED
	REVISIONS			

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

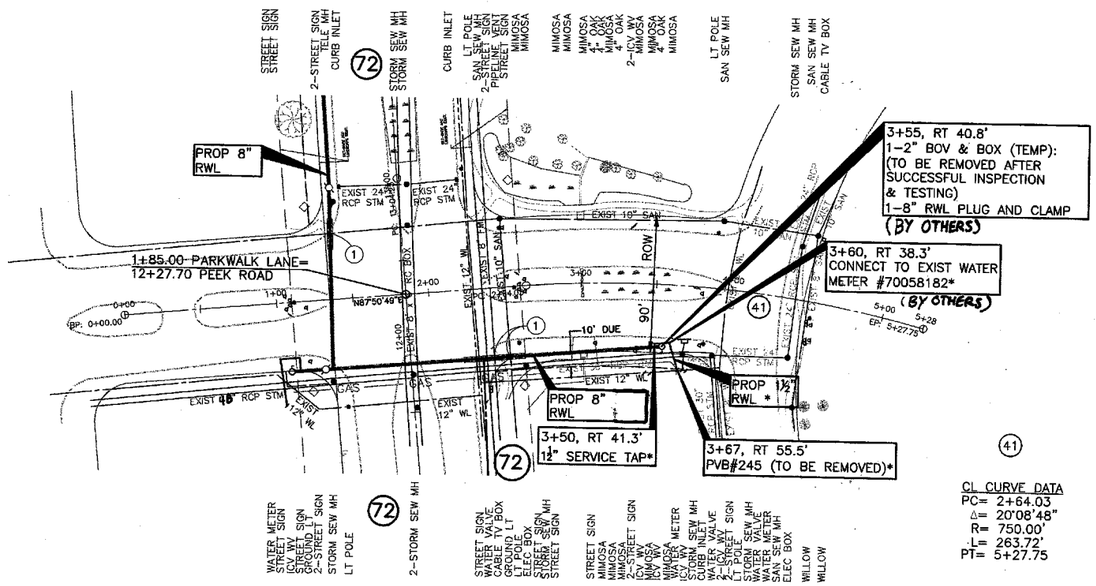
CINCO RANCH RECLAIMED WATER SYSTEM

NORTHMOOR DRIVE

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 135 OF 154

PATH/FILENAME: L:\CINCO\P&P-MISC.DWG
LAST UPDATE: Monday, 9, 2012 8:46:17 PM
PLOT DATE: Tuesday, No 13, 2012 8:44:46 AM
ANSI D - 19-Nov-12



CL CURVE DATA
PC= 2+64.03
Δ= 20°08'48"
R= 750.00'
T= 263.72'
PT= 5+27.75

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

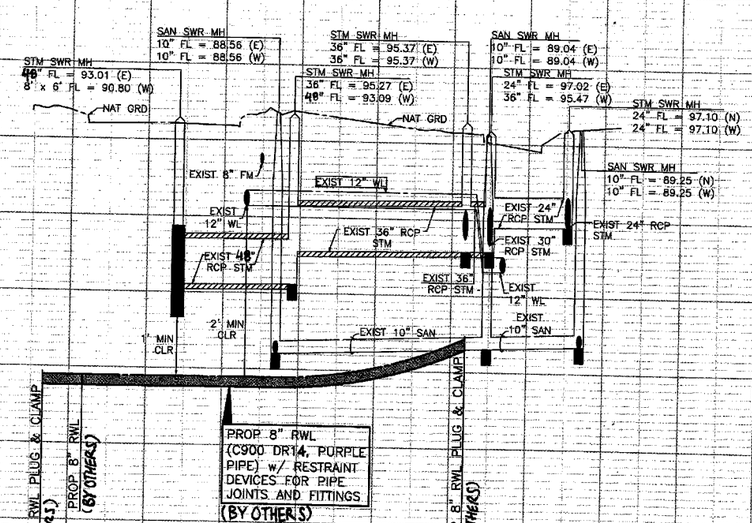
CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

LEGEND

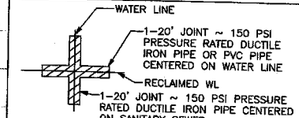
- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

PARKWALK LANE - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.
APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
12-18-13	
WASTEWATER	STORM WATER QUALITY
4-8-14	
STORM	FACILITIES
4-15-14	4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040
DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'
SHEET No: 136 OF 154

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

52149
DRAWING NO.

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
PARKWALK LANE
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 136 OF 154

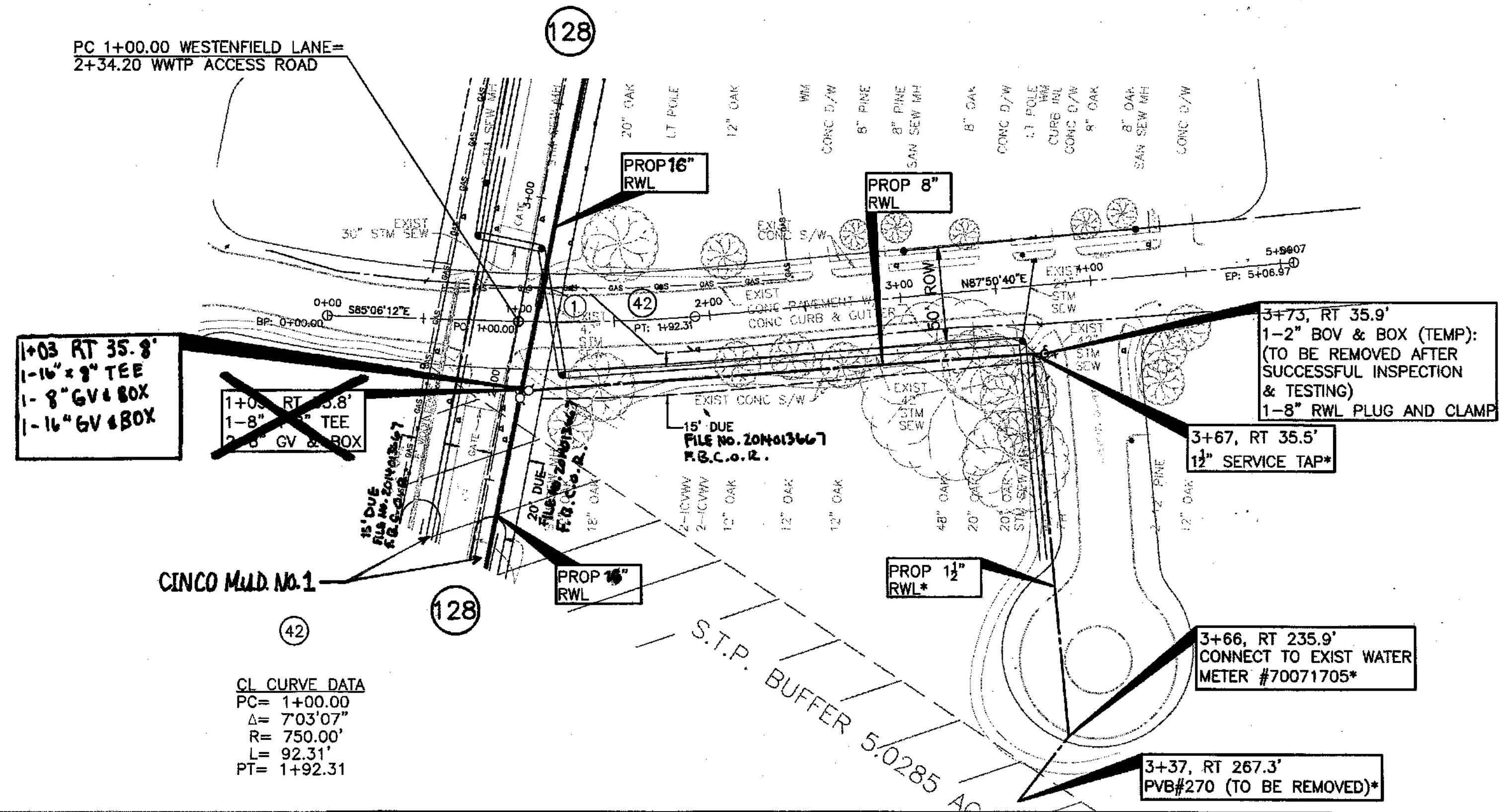
PATH/FILENAME: U:\CINCO RANCH\P&P-MISC.DWG
LAST UPDATE: Tuesday, November 20, 2012 10:44:13 AM
PLOT DATE: Tuesday, November 20, 2012 10:51:49 AM
WSI: D - 20-Nov-12

CAUTION:
EXISTING GAS FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

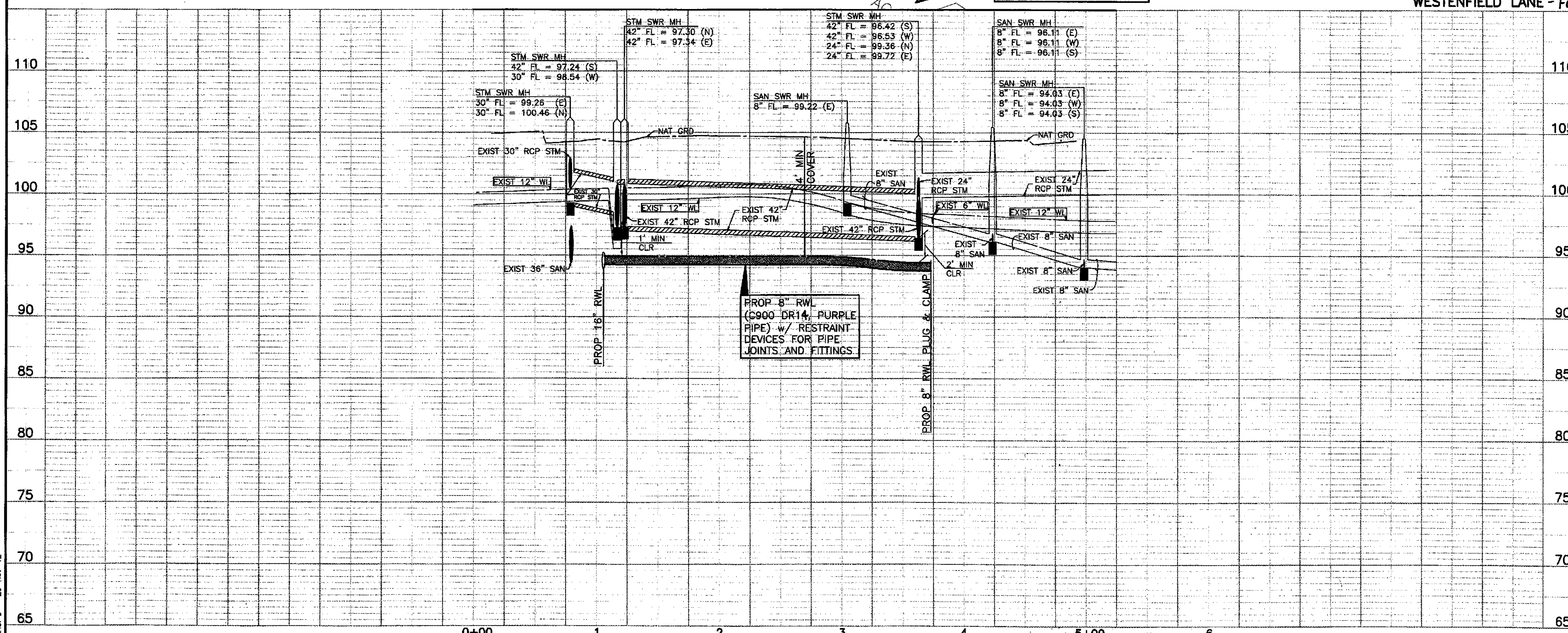
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

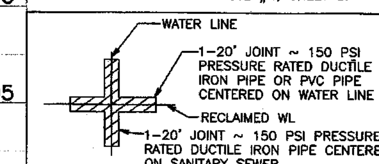


NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

WESTENFIELD LANE - FORT BEND



NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: ASSISTANT TO THE COUNTY ENGINEER

DATE: 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-3-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15-14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 137 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS — DAN EDWARDS 85443 LICENSED PROFESSIONAL ENGINEER 11/21/12

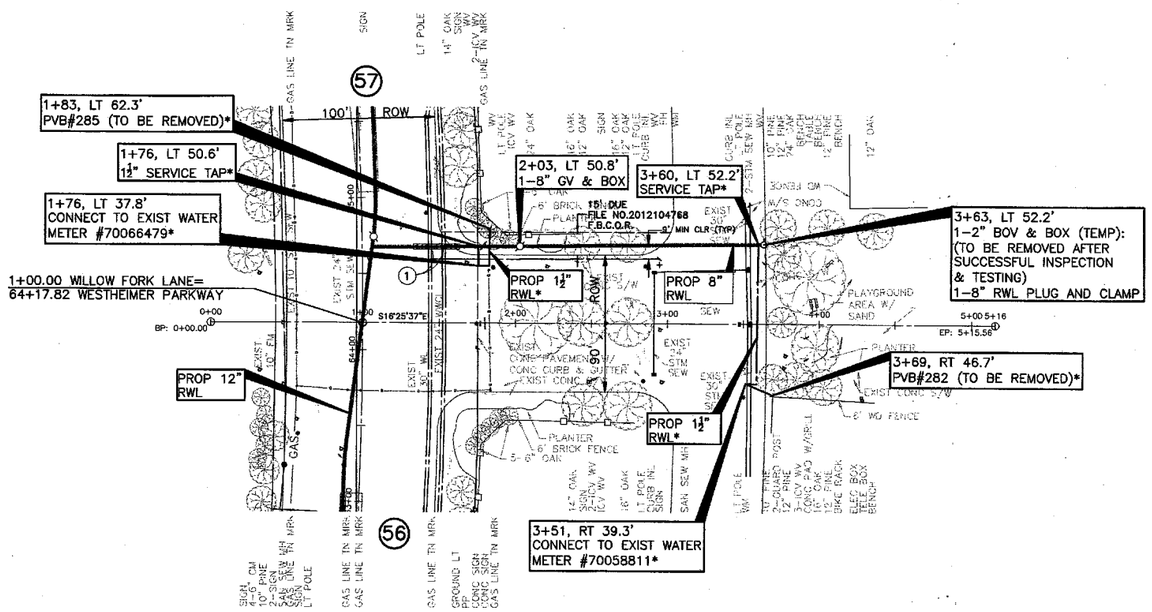
CINCO MUNICIPAL UTILITY DISTRICT NO. 1

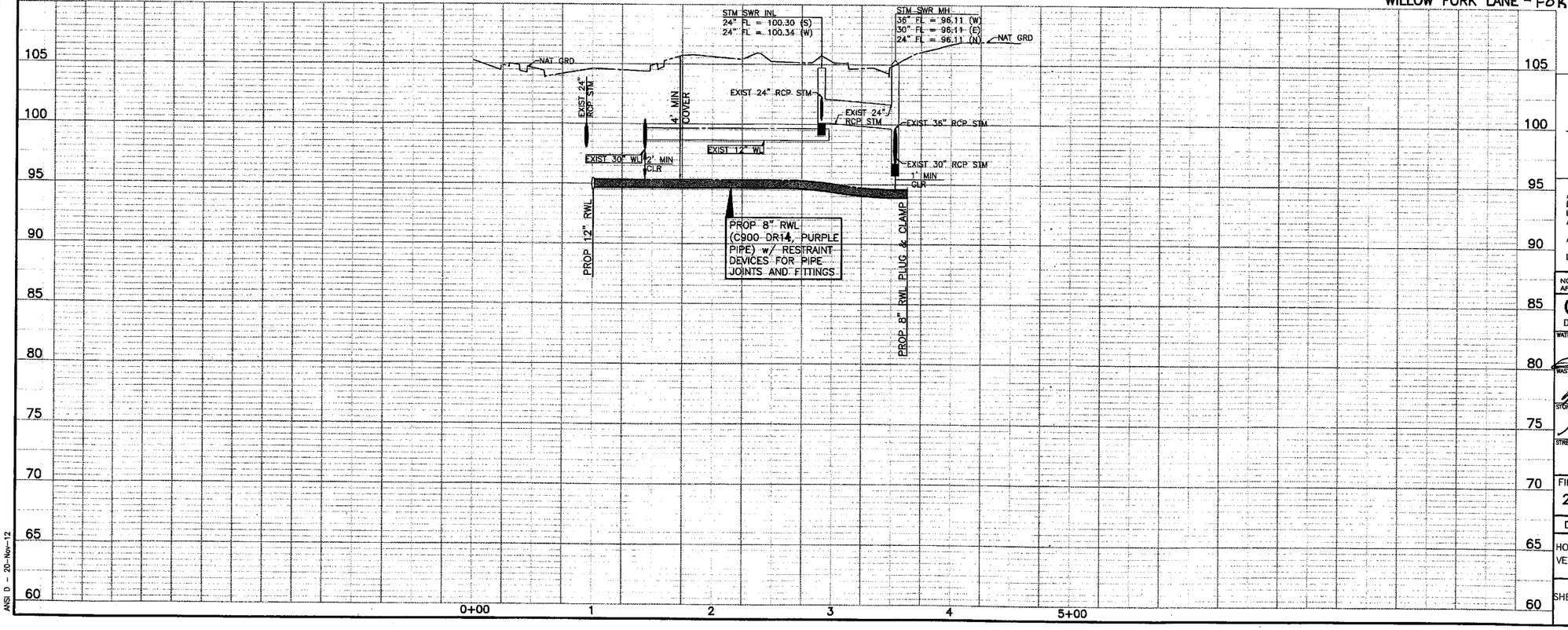
CINCO RANCH RECLAIMED WATER SYSTEM
WESTENFIELD LANE

PROJECT NO: 60194669 (WSD)
CAD DWG FILE: P&P-MISC
DESIGNED BY: DE
DRAWN BY: JE
DEPT CHECK:
PROJ CHECK:
DATE: DECEMBER 2012
SCALE: 1" = 50'

SHEET 137 OF 154

PATH/FILENAME: L:\CINCO\DWG\P&P-MISC.DWG
LAST UPDATE: Tuesday, November 20, 2012 10:44:13 AM
PLOT DATE: Tuesday, November 20, 2012 10:52:09 AM
ANSI D - 20-Nov-12





CAUTION:
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CAUTION:
EXISTING OVERHEAD POWER FACILITIES IN AREA. CONTRACTOR MUST FIELD VERIFY ALL LINES.

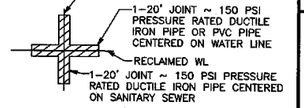
LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

WILLOW FORK LANE - FORT BEND

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-18-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.5.14	4.7.14

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 138 OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2757 DOROTHY, SUITE 101 WEST
HOUSTON, TEXAS 77077–1589
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
12/18/13

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

WILLOW FORK LANE

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P–MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

SHEET 138 OF 154

PIPE ENGINEERING 52149 CITY DRAWING NUMBER TEXAS

PATH/FILENAME: L:\CINCO\...\DWG P&P–MISC.DWG
LAST UPDATE: Tuesday, ... 2012 10:44:13 AM
PLOT DATE: Tuesday, Nov ... 2012 10:52:30 AM
ANSI D – 20–Nov–12

CINCO RESIDENTIAL PROPERTY ASSOC.

RESTRICTED RESERVE "B" (RESTRICTION No. [illegible])

1+74, LT 55.0'
1–16" RWL PLUG & CLAMP

PROP 16" RWL

15' DUE FILE NO. 20121048[illegible] F.B.C.O.R.

1+74, LT 35.0'
1–16" x 16" TEE
2–16" GV & BOX

PROP 16" RWL

STATE HIGHWAY 99 DITCH

(43)

CL CURVE DATA
PC= 3+76.26
Δ= 4°45'38"
R= 200.00'
L= 16.62'
PT= 3+92.88

STATE HIGHWAY 99 ROW

1+00.00 GRAND PARKWAY WEST=
1+52.85 GRAND PARKWAY CROSSING

(119)

9+56, LT 113.0'
CONNECT TO EXIST WATER METER #70055466*

9+50, LT 113.1'
PVB#301 (TO BE REMOVED)*

PROP 16" RWL

9+55, LT 35.0'
12" SERVICE TAP*

15' DUE FILE NO. 2012104768 F.B.C.O.R.

9+59, LT 35.0'
1–2" BOV & BOX (TEMP)
(TO BE REMOVED AFTER SUCCESSFUL INSPECTION & TESTING)
1–8" PLUG AND CLAMP

9+44.66 GRAND PARKWAY WEST=
2+60.03 CINCO RANCH BOULEVARD

NOTE:
BORE PITS TO BE LOCATED AT PROP BENDS, VALVES OR MANHOLES, AS NECESSARY. CONTRACTOR TO RESTORE BORE PIT AREAS TO EXIST OR BETTER CONDITIONS UPON COMPLETION OF INSTALLATION OF PROP RWL.

CAUTION:
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LEGEND

- PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION
- PROP RECLAIMED WL IN OPEN–CUT CONSTRUCTION
- PRESSURE VACUUM BREAKER (PVB)
- POTABLE WATER METER TO BE CONVERTED TO NON–POTABLE (TYPE I RECLAIMED WATER)
- * DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281–646–2336 TO COORDINATE CONNECTION.

GRAND PARKWAY WEST – FORT BEND

NAT GRD

5' MIN COVER

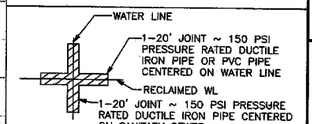
PROP 16" RWL

PROP 16" RWL (C905 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 16" RWL (C905 DR14, PURPLE PIPE) w/ RESTRAINT DEVICES FOR PIPE JOINTS AND FITTINGS

PROP 16" RWL PLUG & CLAMP

NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-12-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : 1" = 40'
VERT : 1" = 4'

SHEET No: 139 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057–1599
(713) 780–8100
TBPE REG. NO. F–3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/8/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

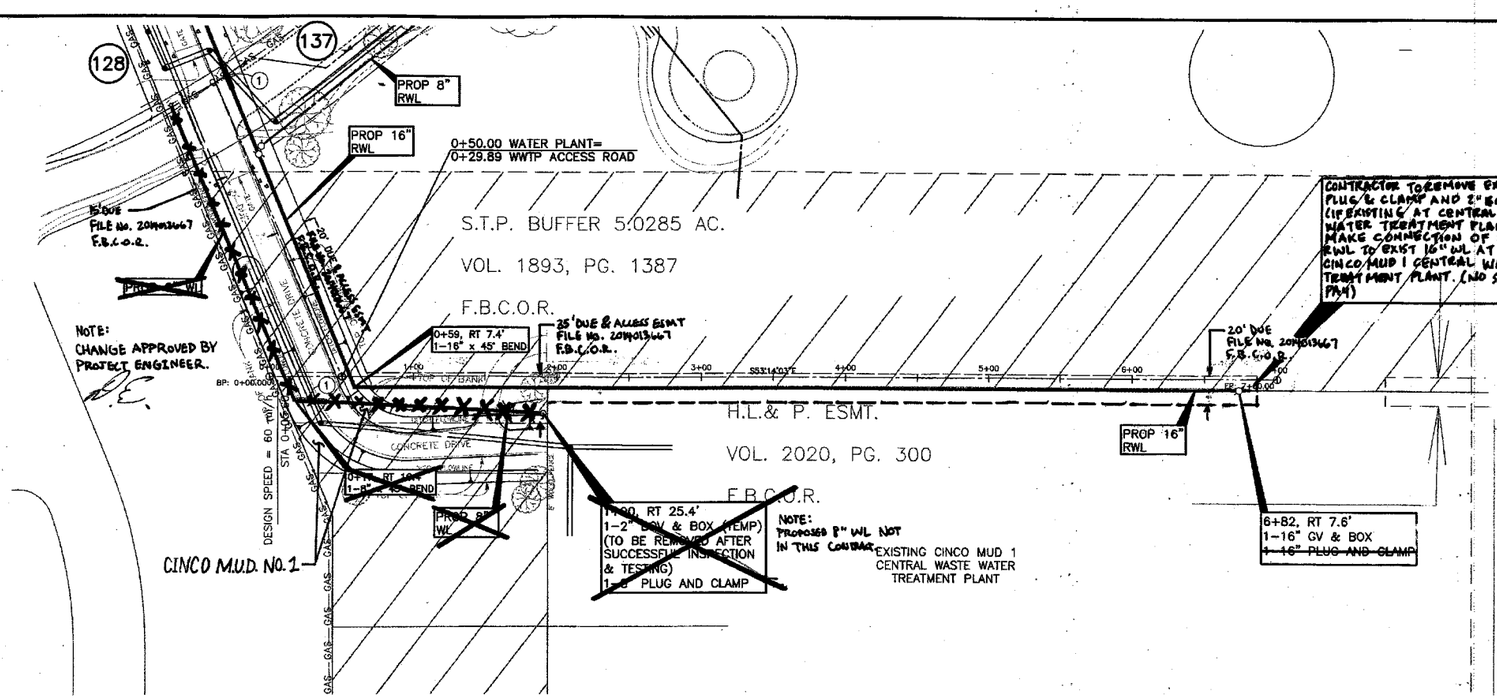
CINCO RANCH RECLAIMED WATER SYSTEM

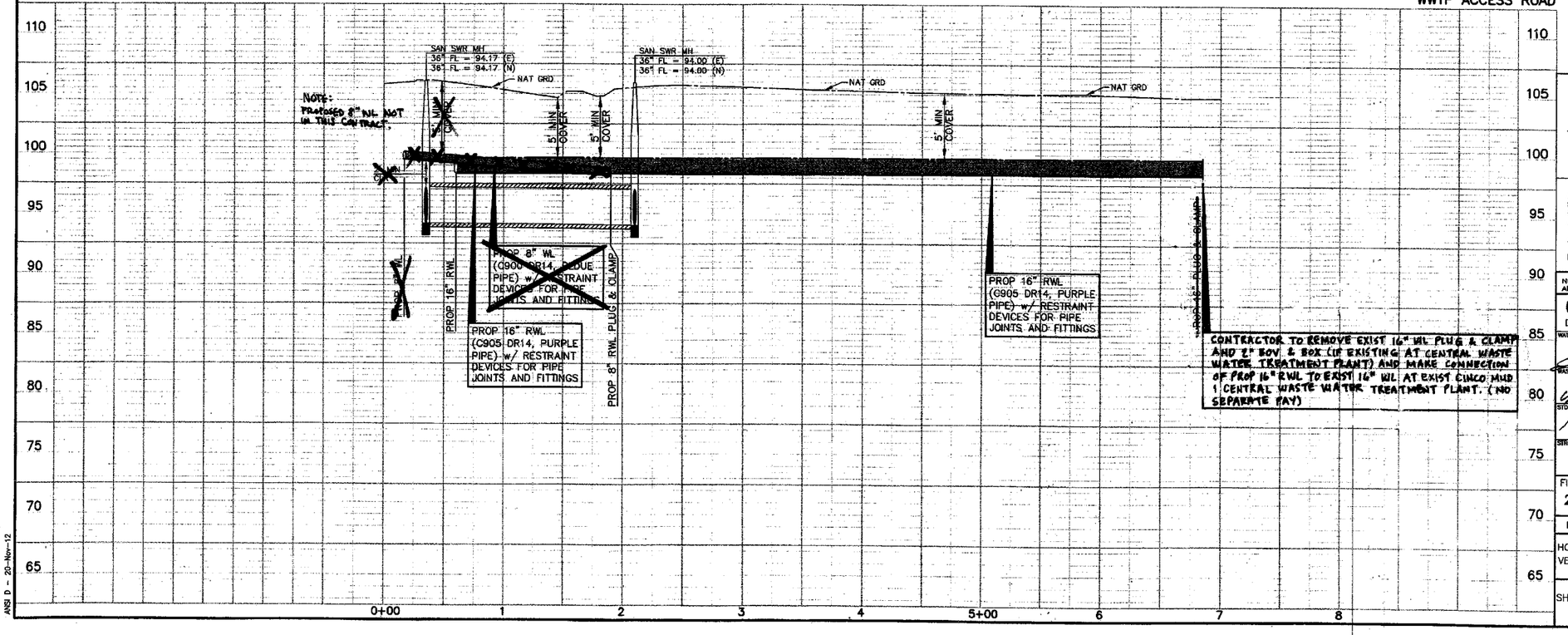
GRAND PARKWAY WEST

PROJECT NO:	60194669 (WSD) (PAV)
CAD DWG FILE:	P&P–GRAND PKW
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 40'

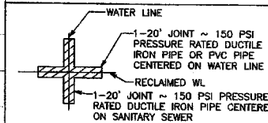
SHEET 139 OF 154

PATH/FILENAME: L:\DWG\P&P–GRAND PKWY.DWG
LAST UPSAVE: Monday, November 19, 2012 7:26:09 PM
PLOT DATE: Monday, November 19, 2012 7:27:03 PM
ANSI D – 19–Nov–12





NOTE: (1)
FOR ALL RECLAIMED WL CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES" NOTE #4, SHEET 3.



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER WASTEWATER	TRAFFIC & TRANSPORTATION
STORM	STORM WATER QUALITY
STREET & BRIDGE	FACILITIES

FILE NO: 2011-1040

DRAWING SCALE
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET No: 140 OF 154

52149 CITY ENGINEERING REVISION

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2101 CITYWEST BLVD, WEST TOWER, SUITE 1900
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

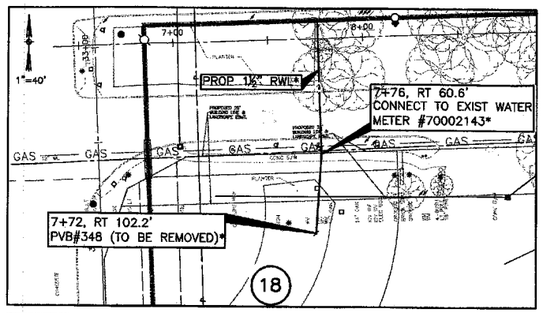
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER

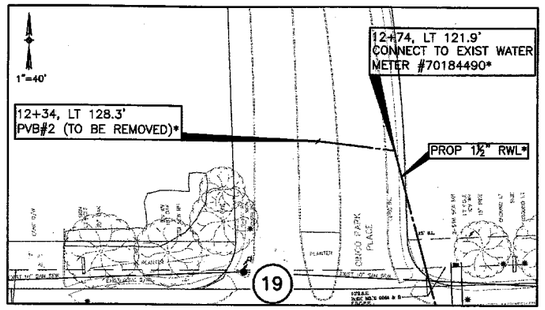
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
WATER PLANT CONNECTION LAYOUT

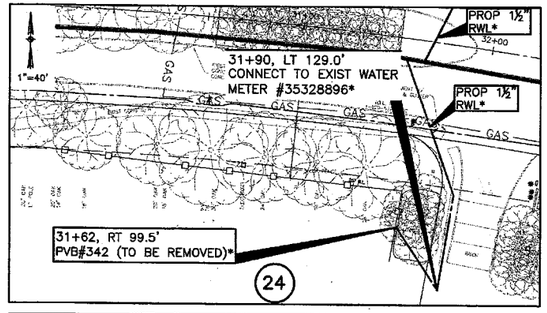
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC2
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	1" = 50'

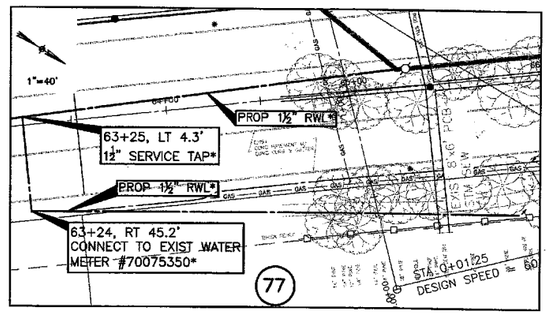
SHEET 140 OF 154

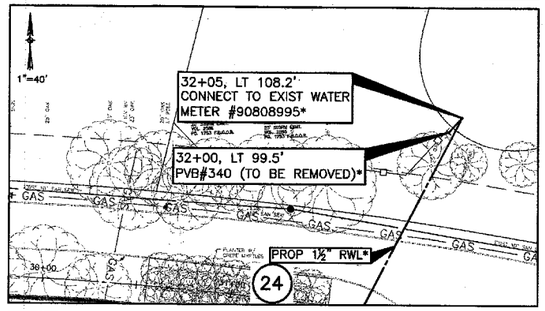
PWW/FILENAME: L:\CINCO\60194669\DWG\P&P-MISC2.DWG
LAST UPDATE: Tuesday, November 20, 2012 8:53:23 AM
PLOT DATE: Tuesday, November 20, 2012 8:53:23 AM
ANSI D - 20-Nov-12

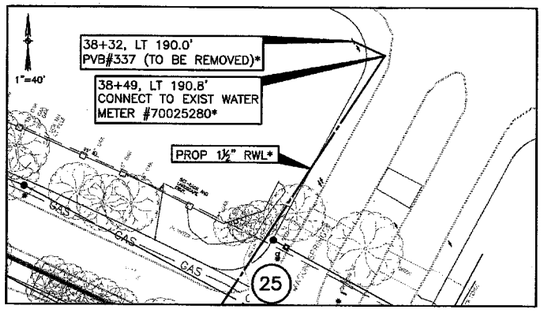


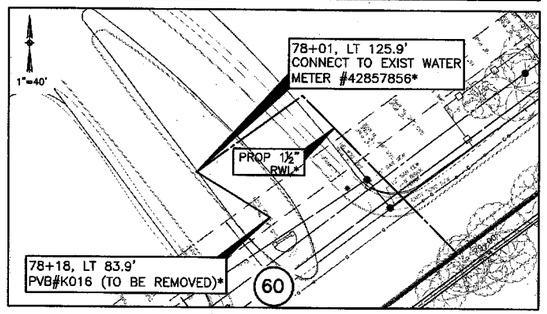


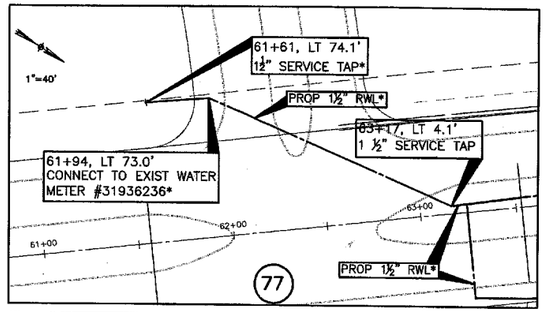


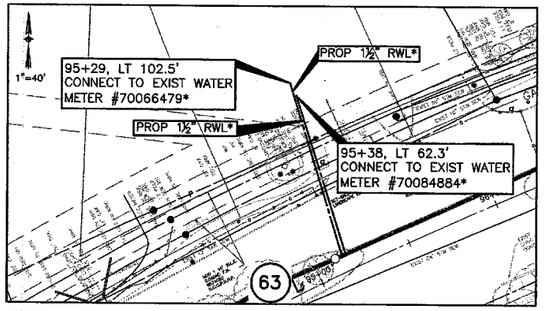


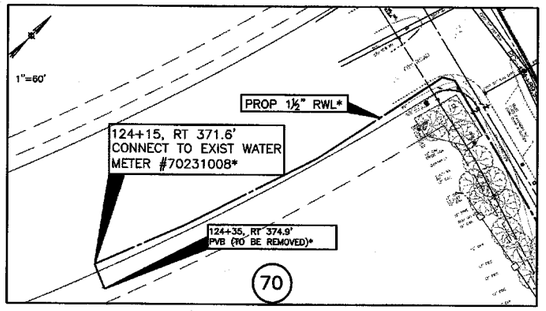


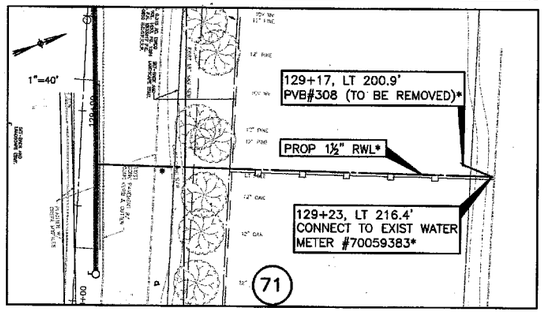


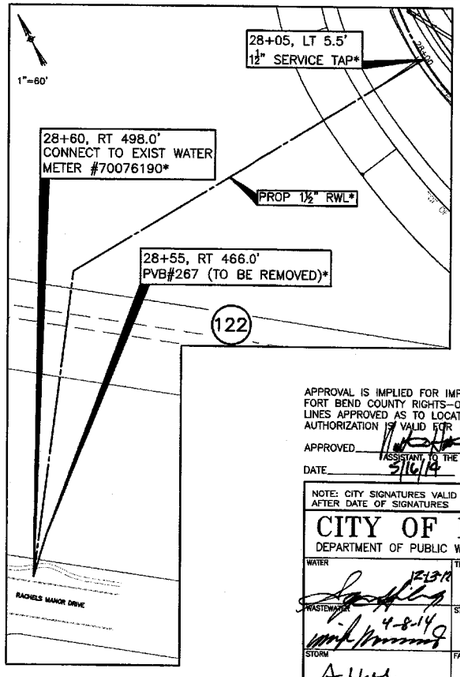


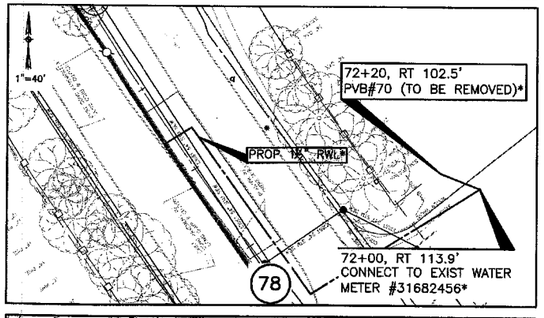


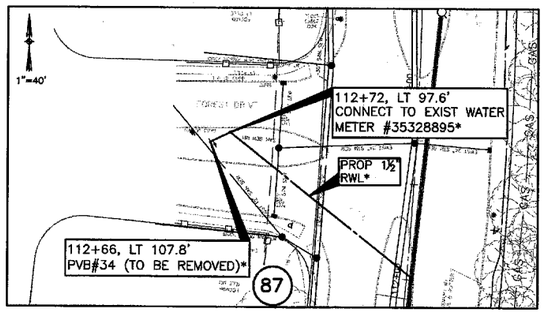


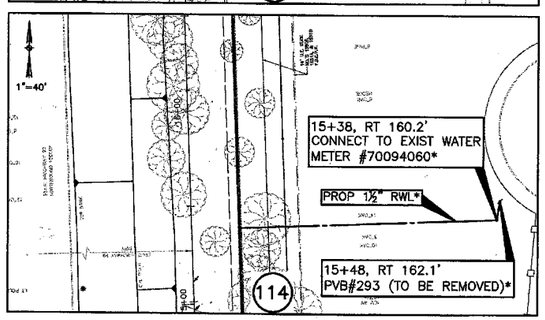


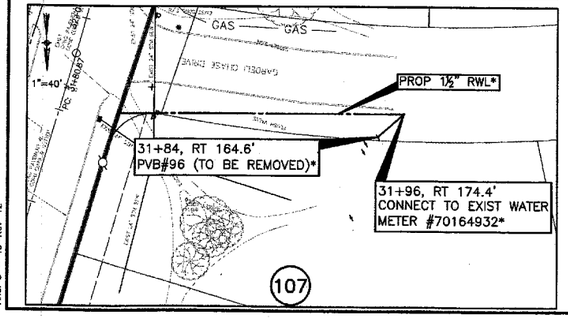












LEGEND

PROP RECLAIMED WL IN TRENCHLESS CONSTRUCTION

PROP RECLAIMED WL IN OPEN-CUT CONSTRUCTION

* DENOTES WORK TO BE PERFORMED BY THE DISTRICT OPERATOR. CONTACT RICH RANKIN WITH SEVERN TRENT @ 281-646-2336 TO COORDINATE CONNECTION.

PRESSURE VACUUM BREAKER (PVB)

POTABLE WATER METER TO BE CONVERTED TO NON-POTABLE (TYPE I RECLAIMED WATER)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 141 OF 154

52149
DRAWING NUMBER

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM (713) 953-4800
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

METER LOCATION LAYOUT

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 141 OF 154

PATH/FILENAME: L:\CINCO RANCH\DWG\P&P-MISC.DWG
LAST UPDATE: Monday, November 19, 2012 7:35:57 PM
PLOT DATE: Monday, November 19, 2012 7:38:27 PM
ANSI D - 19-Nov-12

26

27

1"=50'

SEE SHEET 27 FOR DETAIL OF CONNECTION

N36° 40' 32.87"E
155.107

X=3028325.64
Y=708530.34

N24° 39' 55.50"E
187.515

X=3028403.80
Y=708700.74

N09° 01' 18.24"E
223.785

X=3028438.89
Y=708921.76

PROP 12" RWL

N02° 10' 06.15"E
218.06

X=3028447.06
Y=709137.68

N32° 00' 38.72"E
185.158

X=3028545.21
Y=709294.69

N08° 29' 14.33"E
134.530

X=3028565.07
Y=709427.75

1-12" RWL PLUG & CLAMP
1-2" BOV & BOX (TEMP)

X=3028565.97
Y=709427.75

N01° 39' 37.03"W
262.176

14' U.E. & 16' A.E.
SLIDE NO. 1634 A&P
F.B.C.P.R.
F.N. 9824092
F.B.C.O.R.

40' H.L. & P.
AERIAL EASEMENT
VOL. 2219, PG. 1178
F.B.C.O.R.

VOL. 2219, PG. 1178
F.B.C.O.R.

GUY ESMT.

65

64

1"=40'

SEE SHEET 45 FOR DETAIL OF CONNECTION

PROP 12" RWL

715.450
S05° 35' 00.55"E

X=3035108.19
Y=706598.57

1-12" RWL PLUG & CLAMP
1-2" BOV & BOX (TEMP)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-13-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	Land Arch 4.3.14

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 142 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194869, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

GOLF COURSE CONNECTION LAYOUT

PROJECT NO:	60194869 (MSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 142 OF 154

PATH/FILENAME: L:\CINCO\60194869\DWG\P&P-MISC.DWG
LAST UPDATE: Monday, November 19, 2012 4:06:17 PM
PLOT DATE: Monday, November 19, 2012 4:07:58 PM
ANSI D - 19-Nov-12

TXDOT APPROVAL (SHEET 1 OF 1)
SEE NOTES ON SHEET 04 OF 154

Approval Form

Page-1 of 1

Approval Form
Online version 11/2005

APPROVAL

To Melissa Meyer
Cinco Municipal Utility District No. 1
5757 Woodway Dr, Suite 101 West
Houston, TX 77057

Date 4/18/2012
Application No. HOU2011220100247
District App. No. 11-1924
Highway SH 0099
Control Section 351004
Maintenance Section Fort Bend
County Fort Bend

TxDOT offers no objection to the location on the right-of-way of your proposed utility installation, as described by Notice of Proposed Utility Installation No. HOU2011122010247 (District Application No. 11-1924) dated 4/18/2012 and accompanying documentation, except as noted below.

Not applicable

When installing utility lines on controlled access highways, your attention is directed to governing laws, especially to Texas Transportation Code, Title 6, Chapter 203, pertaining to Modernization of State Highways; Controlled Access Highways. Access for serving this installation shall be limited to access via (a) frontage roads where provided, (b) nearby or adjacent public roads or streets, (c) trails along or near the highway right-of-way lines, connecting only to an intersecting roads; from any one or all of which entry may be made to the outer portion of the highway right-of-way for normal service and maintenance operations. The Installation Owner's rights of access to the through-traffic roadways and ramps shall be subject to the same rules and regulations as apply to the general public except, however, if an emergency situation occurs and usual means of access for normal service operations will not permit the immediate action required by the Utility Installation Owner in making emergency repairs as required for the safety and welfare of the public, the Utility Owners shall have a temporary right of access to and from the through-traffic roadways and ramps as necessary to accomplish the required emergency repairs, provided TxDOT is immediately notified by the Utility Installation Owner when such repairs are initiated and adequate provision is made by the Utility Installation Owner for convenience and safety of highway traffic.

The installation shall not damage any part of the highway and adequate provisions must be made to cause minimum inconvenience to traffic and adjacent property owners. In the event the Installation Owner fails to comply with any or all of the requirements as set forth herein, the State may take such action as it deems appropriate to compel compliance.

It is expressly understood that the TxDOT does not purport, hereby, to grant any right, claim, title, or easement in or upon this highway; and it is further understood that the TxDOT may require the Installation Owner to relocate this line, subject to provisions of governing laws, by giving thirty (30) days written notice.

If construction has not started within six (6) months of the date of this approval, the approval will automatically expire and you will be required to submit a new application. You are also requested to notify this office prior to commencement of any routine or periodic maintenance which requires pruning of trees within the highway right-of-way, so that we may provide specifications for the extent and methods to govern in trimming, topping, tree balance, type of cuts, painting cuts and clean up. These specifications are intended to preserve our considerable investment in highway planting and beautification, by reducing damage due to trimming.

Special Provisions:
Special Provision Specifications

You are required to notify TxDOT 48 hours (2 business days) before you start construction to allow for proper inspection and coordination of work days and traffic control plans. Use the UIR website for the 48-hour notification. DO NOT start construction until you have coordinated the construction start date and inspection with TxDOT. You are also required to keep a copy of this Approval, the Notice of Proposed Installation, and any approved amendments at the job site at all times.

Texas Department of Transportation
By Leonard Polk
Title Transportation Engineering Supervisor
District Houston

https://apps.dot.state.tx.us/UIRPRO/lib/NoticeApproval.asp?ApproverID=DOT20070622093108&Permit... 4/18/2012

KINDER MORGAN APPROVAL (SHEET 1 OF 1)
SEE NOTES ON SHEET 04 OF 154

Evans, Jimmy

From: Ephraim, Jim [Jim_Ephraim@kindermorgan.com]
Sent: Wednesday, February 08, 2012 7:53 AM
To: Meyer, Melissa M.
Cc: Bare, Scott; Taylor, Fred; Mugnier, Mike; Moreland, Randy; Krametbauer, Joseph; Herrera, Francisco
Subject: Tejas 202-600-20in.: Cinco Water Reuse Line (file E120204)
Attachments: P&P-PRD PEEK5 (1).pdf; DOC020112-012.pdf; OM200-29_GUIDELINES FOR DESIGN & CONSTRUCTION NEAR KM FACILITIES_Kinder Morgan_01.18.12.pdf

Melissa,

Kinder Morgan has no objection to the construction of the 8" re-use water line at about 16' below the Kinder Morgan Tejas 202-600-20" high pressure natural gas pipeline by the trench less method as indicated in the attached plans but will require the construction contractor follow the attached guidelines and notify the Kinder Morgan Missouri City Texas operations office at 281-856-1802 and issue a "Texas One Call" phone No. 811 prior to construction to schedule a Kinder Morgan Damage Prevention Inspector to be on location when work is being conducted within 25' of the high pressure natural gas pipeline.

Kinder Morgan inspectors will confirm clearances and we reserve the right to revoke approval and require adjustment at your expense of any construction that does not meet the requirements as outlined or interferes with Kinder Morgan's rights as pipeline owner / operator, or compromises the safety of the pipeline operation.

Jim(James) Ephraim PE
Project Manager
Kinder Morgan
500 Dallas St Suite 1000
Houston, Texas 77002
Phone: 713-369-8851
Fax: 713-495-7480
Cell: 713-201-0549

Jim_Ephraim@kindermorgan.com

COPANO PIPELINE COMPANY
SEE NOTES ON SHEET 03 OF 154

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVERS LICENSE NUMBER.

CONSENT TO ENCROACHMENT

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

WHEREAS, Cinco Municipal Utility District No. 1, proposes to install three (3) water lines pursuant to those drawings as shown on Exhibit "A", attached hereto and incorporated herein by reference for all purposes; and

WHEREAS, such three (3) water lines will encroach onto an existing pipeline easements owned by Copano NGL Services, LP ("Copano"), said easements being referenced as follows:

Right-of-Way Agreement dated July 5, 1947, and recorded in Volume 247, Page 105 of the Deed Records of Ft. Bend County, Texas, from J. S. Abercrombie, individually and as Agent and as Attorney in fact for W. B. Pyron and as Agent and Attorney in fact for Mary Greer Pyron, a widow, W. M. Wheless, W. M. Wheless, Jr., Mary Wheless Powell, and W. M. Powell, Jr. to Shell Pipe Line Corporation; and

Partial Release of Easement dated April 23, 1985, and recorded in Volume 1742, Page 1297 of the Deed of Records of Ft. Bend County, Texas from Shell Pipe Line Corporation to Cinco Venture; and

Partial Release and Amendment of Easements dated November 10, 1986, and recorded in Volume 1903, Page 1067 of the Deed of Records of Ft. Bend County, Texas from Shell Pipe Line Corporation to Cinco Ranch Venture, Westheimer/Cinco Joint Venture, T. M. C. Cinco, Inc., and Cinco/Watson Joint Venture; and

Right of Way Agreement dated November 28, 1945, and recorded in Volume 232, Page 416 of the Deed Records of Ft. Bend County, Texas, from J. S. Abercrombie, W. B. Pyron and W. M. Wheless to Shell Pipe Line Corporation; and

Partial Release of Easement dated February 28, 1977, and recorded in Volume 713, Page 660 of the Deed of Records of Ft. Bend County, Texas from Shell Pipe Line Corporation to S. Abercrombie, W. B. Pyron and W. M. Wheless; all hereinafter collectively referred to as the "Easements", and

COPANO PIPELINE COMPANY
SEE NOTES ON SHEET 03 OF 154

WHEREAS, Copano owns said Easement, a pipeline located thereon, and related facilities, and may hereafter construct or install additional pipelines, works and facilities within the Easement and, from time to time, may be required to repair, reconstruct, relocate, enlarge and maintain same; and

WHEREAS, Cinco Municipal Utility District No. 1 requests to construct the three (3) water lines over and across Copano's 6-inch pipeline as shown on Exhibit "A"; and

WHEREAS, the Cinco Municipal Utility District No. 1 has requested that Copano consent to such proposed encroachment and Copano is agreeable to same, subject to the terms and conditions set forth herein; and

NOW, THEREFORE, Copano, subject to execution and delivery of this document by the Cinco Municipal Utility District No. 1, and only to the extent to which it may lawfully do so under the terms and conditions of the Easement referenced above, does hereby consent to the encroachment but only as depicted on the attached Exhibits "A" pursuant to the following terms and conditions:

1. Cinco Municipal Utility District No. 1 shall construct the three (3) water lines in such a manner that will not unreasonably interfere with the rights and use of Copano's pipeline facilities in its operation of same. Cinco Municipal Utility District No. 1 shall obtain from Copano, its agents, employees or representatives approval of equipment to be associated with, or installed prior to such actual association or installation of said equipment, which approval shall not be unreasonably withheld. Cinco Municipal Utility District No. 1 shall notify Copano's representative at least twenty-four (24) hours in advance of any construction over, on, or upon Copano's Easement so that a representative, may be present, on-site, during any construction activity.

2. The Cinco Municipal Utility District No. 1 and its successors and assigns do hereby agree, to the extent permitted by law: (i) to release Copano from any and all costs, expenses or liability (which in absence of the above encroachment would not have occurred) resulting from damage to Cinco Municipal Utility District No. 1's three (3) water lines that arise directly or indirectly out of the existence of Copano's pipeline(s) and facilities, their condition, repair, maintenance, reconstruction, removal, or other operations relating to the pipeline(s) of Copano, by Copano, its agents, employees or representatives within the Easement, including, without limitation, any property damage, personal injury, death or other loss or expense resulting directly or indirectly from Cinco Municipal Utility District No. 1's facilities; (ii) to indemnify and hold harmless Copano for any and all costs, expenses or liability (which in the absence of the above encroachment would not have occurred) resulting from damage to Copano's pipeline and related facilities that arise directly or indirectly out of the existence of Cinco Municipal Utility District No. 1's three (3) water lines, their condition, repair, maintenance, reconstruction, removal, or other operations relating to the three (3) water lines of Cinco Municipal Utility District No. 1, by Cinco Municipal Utility District No. 1, its agents, employees or representatives within the Easement, including, without limitation, any property damage, personal injury, death or other loss or expense resulting directly or indirectly from Cinco Municipal Utility District No. 1's three (3) water lines; and (iii) to indemnify and hold harmless Copano against any and all reasonable costs and expenses

ENTERPRISE PRODUCTS APPROVAL (SHEET 1 OF 2)
SEE NOTES BELOW

Enterprise Products

P.O. Box 4324 Houston, Texas 77210-4324 713.381.6500
2727 North Loop West Houston, Texas 77008-1044 www.eprod.com

February 24, 2012

Melissa Meyer
AECOM
5757 Woodway, Suite 101 West
Houston, Texas 77057-1599

RE: REQUEST FOR ENCROACHMENT ACROSS THE SEALY JUNCTION TO CULLEN BOULEVARD PIPELINE (TEPPCO SOUTH TEXAS CRUDE LINES; LID #C5.2/C5.8; TRACT # 599/148(HH-283); DB #4875)
LETTER OF NO OBJECTION – FORT BEND COUNTY, TEXAS

Dear Ms. Meyer:

Pursuant to your request on behalf of Cinco Ranch Municipal Utility District (CRMUD)'s proposed construction of one (1) twelve inch (12") and one (1) eight inch (8") PVC reuse water lines (collectively referred to as ENCROACHMENT and described in detail below) crossing at six (6) locations the Sealy Junction to Cullen Boulevard pipeline, please be advised that Enterprise Crude Pipeline LLC (COMPANY) hereby has no objection to the proposed ENCROACHMENT in consideration of CRMUD'S agreement to the following requirements:

1. CRMUD'S aforementioned one (1) twelve inch (12") and one (1) eight inch (8") PVC reuse water lines crossings as per plans from AECOM dated November 2011 will consist of one (1) twelve inch (12") at Station 62+00 as shown on Sheet 30, Station 29+00 as shown on Sheet 40 and Station 56+40 as shown on Sheet 55 and one (1) eight inch (8") at Station 106+45 as shown on Sheet 85, Station 28+20 as shown on Sheet 105 and Station 8+10 as Shown on Sheet 130.

2. A minimum of 48 hours (excluding weekends and holidays) prior to commencing construction activities relating to the Encroachment within twenty-five feet (25') of COMPANY'S pipeline, CRMUD shall notify, or shall require and be responsible for its contractors, agents, and subcontractors to notify local One-Call by dialing 811, as well as COMPANY'S Operations representative Ray Fitzpatrick at (713) 516-5561, so that Mr. Fitzpatrick or his designated representative can be present during any approved construction operations. The following language must be conspicuously displayed on all drawings depicting the pipeline:

WARNING! HIGH PRESSURE PIPELINE
Excavation and/or Construction Prohibited without Prior Written Permission From
Enterprise Crude Pipeline LLC

3. CRMUD'S crossing(s) will be as close to ninety (90) degrees as possible to COMPANY'S pipeline, but not less than forty-five (45) degrees. Approved trenchless construction within ten feet (10') of COMPANY'S pipeline and facilities require physical verification of pipeline location prior to commencement of any work.

4. CRMUD will install the aforementioned water reuse lines under COMPANY'S pipeline in such a way that a minimum vertical separation of twenty-four inches (24") between the bottom of COMPANY'S pipeline and the top of CRMUD'S utility lines are maintained.

5. CRMUD will not move construction equipment across COMPANY'S pipeline and/or rights-of-way without the consent of COMPANY'S representative. **A 72 hour notice is required before crossing pipeline with heavy equipment.** Wherever CRMUD is approved to cross COMPANY'S pipeline and/or rights-of-way with heavy equipment, CRMUD will place matting or other suitable material over the pipeline as determined by COMPANY'S representative in the field. No large vibratory compaction equipment is allowed within the COMPANY'S right-of-way, only walk-behind vibratory roller/compactor is allowed when working over COMPANY'S pipeline. CRMUD will maintain a minimum of two and one-half feet (2.5') of cover over the top of the COMPANY'S pipeline at locations where construction or maintenance activities will take place over the pipeline.

6. CRMUD may place excavated material inside COMPANY'S rights-of-way, but may not place such material over COMPANY'S pipeline unless approved by COMPANY'S representative. No equipment will be allowed to work over COMPANY'S pipeline unless approved by COMPANY'S representative. Any excavation within two feet (2') of COMPANY'S pipeline will be done by hand. All mechanical digging equipment must have the teeth removed or barred with a plate welded across the teeth.

7. CRMUD will not place large landscaping, including, but not limited to, trees and large shrubs with a mature untrimmed height greater than eighteen inches (18") on COMPANY'S rights-of-way. No light or utility poles, fences, buildings, houses, barns, garages, patios, swimming pools, reinforced concrete slabs, or other permanent structures will be permitted on COMPANY'S rights-of-way.

8. Any and all use of COMPANY'S rights-of-way for temporary workspace and any and all crossings of the subject pipeline must be approved by COMPANY'S representative in the field, provided, however, that such approval shall not be unreasonably withheld. CRMUD agrees to clean up and repair all damages to COMPANY'S rights-of-way resulting from the work on or across COMPANY'S rights-of-way. Any and all damage repairs and cleanup of COMPANY'S rights-of-way will be subject to COMPANY'S acceptance.

9. CRMUD may place and maintain utility markers on either edge of COMPANY'S pipeline rights-of-way unless said markers interfere with landowner's or tenant's land use.

10. Within 120 days of the completion of the Encroachment across COMPANY'S rights-of-way, CRMUD will provide to COMPANY at the above address a reproducible as-built drawing of the crossing(s), which shall include a distance of twenty-five feet (25') on each side of said crossing(s) along with depiction of elevations.

11. The existence of the Encroachment does not constitute a waiver of COMPANY'S express rights under the COMPANY'S grant of easement or any other rights which may be implied by law or equity.

Should you have any questions, please call me at (713) 803-1723 or contact me via e-mail at mwaters@sprod.com.

Regards,

Mark Waters
Encroachment Analyst

cc: Mike Brown
Ray Fitzpatrick
Ed Sangel
Alfredo Saenz

ENTERPRISE PRODUCTS APPROVAL (SHEET 2 OF 2)
SEE NOTES BELOW

COPANO PIPELINE COMPANY
SEE NOTES ON SHEET 03 OF 154

of Copano over and above those costs and expense which, in the absence of such encroachments, would normally have been incurred by Copano in the repair, reconstruction, relocation, enlargement or maintenance of the existing works and facilities of Copano situated within the Easement.

3. COPANO, IN GRANTING ITS CONSENT TO THE ENCROACHMENTS DESCRIBED HEREIN, MAKES NO WARRANTIES OF ANY KIND AND SPECIFICALLY MAKES NO WARRANTIES OF USE OR OF TITLE, GENERAL, SPECIAL OR OTHERWISE.

4. THIS AGREEMENT GRANTS NO INDEPENDENT RIGHT TO CINCO MUNICIPAL UTILITY DISTRICT NO. 1 ITS SUCCESSORS OR ASSIGNS TO ENTER ONTO THE LANDS ENCUMBERED BY COPANO'S EASEMENT AS DESCRIBED ABOVE. COPANO MAKES NO ASSIGNMENT OF ANY OF ITS RIGHTS UNDER THE EASEMENT BY THIS INSTRUMENT. CINCO MUNICIPAL UTILITY DISTRICT NO. 1 MUST OBTAIN EASEMENTS OR OTHER LEGAL AUTHORITY FROM THE SURFACE AND FEE OWNERS OF THE LANDS AFFECTED BY THIS AGREEMENT SUFFICIENT TO AUTHORIZE CINCO MUNICIPAL UTILITY DISTRICT NO. 1'S PROPOSED OPERATIONS AND INSTALLATIONS. IF CINCO MUNICIPAL UTILITY DISTRICT NO. 1 FAILS TO OBTAIN EASEMENTS OR RIGHTS OF WAY FROM THE SURFACE AND FEE OWNERS, WHICH GRANT TO CINCO MUNICIPAL UTILITY DISTRICT NO. 1 THE RIGHT TO ENTER ONTO THE LANDS DESCRIBED IN THE EXHIBITS HERETO, AND THAT ARE SUBJECT TO THE TERMS HEREOF, THIS AGREEMENT SHALL BE NULL, VOID AND OF NO EFFECT.

5. In conducting any operations on the said Easement owned by Copano and described above, Cinco Municipal Utility District No. 1 agrees to comply with and be bound by the document entitled:

"COPANO NGL SERVICES, L.P.
GENERAL REQUIREMENTS FOR CROSSING COPANO'S PIPELINES
WITH PIPELINES/ROADS/UTILITY LINES/PRIVATE STRUCTURES," a copy of which is attached hereto as Exhibit "B" hereto and is incorporated herein by reference for all purposes as if set forth in full.

This agreement and all its terms, provisions and obligations shall be covenant running with the land affected thereby and shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors and assigns.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : NTS
VERT :

SHEET No: 143 OF 154

52149
CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
TBPE REG. NO. F-5580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/21/12

CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
MISCELLANEOUS APPROVALS (SHEET 1 OF 2)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 143 OF 154

PATH/FILENAME: L:\CIVIL\...\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, November 19, 2012 8:41:59 AM
PLOT DATE: Monday, November 19, 2012 8:57:53 AM
ANSI D — 19-Nov-12

GULF PIPELINE
SEE NOTES THIS SHEET

GULF SOUTH PIPELINE

June 14, 2012

Cinco Ranch MUD No. 1
3200 Southwest Freeway
Suite 2600
Houston TX 77027

Attn: Melinda Salazar

RE: Gulf South Agreement 5110
Index 129

Dear Ms. Salazar;

Enclosed you will find Gulf South Agreement 5110 issued to Cinco Ranch MUD No. 1 from Gulf South Pipeline Company, LP ("Gulf South") authorizing the 8" water line across its pipeline and right of way.

Please have the appropriate party sign both copies of the agreement, with two witnesses before a public notary. Return the signed documents to my attention at Gulf South Pipeline Company, LP, 111 Park Place, Suite 100, Covington, LA 70433.

If you should have any questions concerning this matter, please contact me at (985) 898-1041.

Yours truly,

Joy Parrott
Land Group

Enc: (2)

cc: Jamie Powell
Area Manager

GULF PIPELINE

Prepared by and Recording Requested by:
Gulf South Pipeline Company, LP
111 Park Place, Suite 100
Covington, LA 70433
985-898-1041

WHEN RECORDED, MAIL TO:
Attn: Joy Parrott

ROW Ref. #65326
FA, Bond County, TX
L. & G.N.R.R. Survey
A-265
Harris County TX
A-1448
Permit 5110

SPACE ABOVE FOR RECORDER'S USE

ENCROACHMENT AGREEMENT

THIS ENCROACHMENT AGREEMENT ("Agreement"), made and entered into this ____ day of _____, 2012 by and between Gulf South Pipeline Company, LP (hereinafter "Gulf South") and Cinco Ranch MUD No. 1, whose mailing address is 3200 Southwest Freeway, Suite 2600, Houston TX 77027 (hereinafter referred to as "Permittee").

DESCRIPTION AND LOCATION OF GULF SOUTH FACILITY

Pipeline Name and Diameter: Aqua Dulce 30"
Station No.: 7420+51
GPS Readings: N 29.75531 W -95.77245

Index No.:129 Item/Tract No. 498
Mile Post: 140.54

Station No.: 7436+88
GPS Readings: N 29.75760 W -95.76991

Mile Post: 140.85

DESCRIPTION OF PERMITTED WORK AND FACILITIES (collectively, "PERMITTED FACILITIES")

What: 8" Water Line

Where: Greenway Village Drive and Highland Knolls Drive

Plans furnished by AECOMM; Date of Plans: November 2011 Latest Revision Date: 6/12/12

Name of contact for Encroaching Party: James Evans, AEComm, Melinda Salazar – MUD #1

Phone Number: James, 713-267-2764; Melinda 713-267-3151

WHEREAS, Gulf South owns, operates, and maintains certain pipeline(s), natural gas facilities, and their associated right of ways (collectively, "Right of Way") pursuant to certain deeds, grants, or conveyances recorded in the public records; and

NOW THEREFORE, Gulf South hereby consents to the Permittee constructing, operating, and/or maintaining the Permitted Facilities, as described herein, on, over, and across Gulf South's Right of Way, subject to the conditions and special provisions set forth below:

1) This Agreement and the consent herein is subject to the existing Right of Way rights and/or leasehold interests of Gulf South at the location described above. Nothing herein contained shall be construed to convey, waive, diminish or subordinate any of Gulf South's existing rights whatsoever.

2) This Agreement shall be revocable by Gulf South upon written notice to Permittee in the event of noncompliance with any requirements, conditions or specifications of this Agreement.

3) Prior to any work being performed in the vicinity of Gulf South's Right of Way, Permittee shall serve telephone notice to the One Call Center at 811. Such notice shall be made at least two (2) but not more than five (5) full working days before work begins. Permittee shall keep the One Call notifications updated as required by state law.

GULF PIPELINE

4) Permittee shall also give Gulf South a minimum of forty-eight (48) hours advance notice of any operations across Gulf South's Right of Way. This notification shall be made during normal business hours to Jarred Garrison at 936-933-6981. Alternate notification can be made to Jamie Powell at 409-384-0642.

5) The operations conducted by Permittee shall be performed at no cost or expense to Gulf South and shall not interfere with Gulf South's normal operations in the area. Gulf South's facility/facilities shall not be removed from service nor will the elevation or placement of Gulf South's facility/facilities or pipeline(s) be adjusted.

6) Permittee shall be liable for any expense, loss or damage of any kind or nature due to the presence of the Permitted Facilities at this location, including, without limitation, costing repair, pipe replacement, operational downtime or gas loss that Gulf South sustains arising out of or resulting from the operations or activities of Permittee, its agents or employees during construction of and while maintaining and operating said Permitted Facilities in the future.

7) If the Permitted Facilities are damaged or destroyed or if said Permitted Facilities must be relocated or removed due to any emergency, operational or maintenance requirements arising out of the day-to-day business activities of Gulf South, Gulf South shall not be liable to Permittee or to any other person or entity for any damages whatsoever, including, for emphasis only and not by way of limitation, damages of any type arising from the loss of product, loss of profit, interruption of business activity or business loss of any kind. Additionally, any subsequent repair and or reinstallation of said Permitted Facilities shall be at the sole (100%) cost and expense of Permittee.

8) All proposed activities in the vicinity of Gulf South's Right of Way shall be conducted with extreme caution and with an inspector from Gulf South present unless Gulf South has waived, in writing, the necessity of their presence. Permittee hereby agrees to pay any costs associated with a Gulf South Inspector being present during construction and during overtime hours, as follows: all hours after 4:00 P.M. Monday through Thursday, after 12:00 Noon on Friday, weekends and all federal holidays.

9) Gulf South's Inspector shall have authority to suspend any operations conducted within the limits of its Right of Way if, in the opinion of Gulf South's Inspector, those operations compromise safety. Nothing herein shall impose a duty on said Inspector to shut down any operations or to take other remedial steps in the event it should become necessary to do so and Permittee hereby acknowledges that it shall be solely liable for all activities undertaken with respect to the consent herein.

10) Permittee shall at all times maintain the Permitted Facilities in a condition that will not interfere with or endanger Gulf South's Right of Way.

11) Permittee shall conform all construction activity to all applicable federal, state, county and/or local regulations.

12) Permittee shall provide Gulf South twenty-four (24) hour per day rights of ingress and egress to and from Gulf South's Right of Way across the Permitted Facilities.

13) Permittee shall not remove Gulf South's pipeline(s), markers or signs from the Right of Way without Gulf South's written consent. Permittee shall inform Gulf South if any facility markings become obscure and shall take corrective measures as requested by Gulf South.

14) Permittee shall warn its excavator that the depth of the pipeline(s) may vary. Permittee shall ensure that hand digging is performed as necessary to expose the pipeline(s) and determine its/their depth.

15) Permittee shall consider special precautions, such as barricading, to prevent adjacent construction activities from encroaching on and/or damaging the Right of Way.

16) Permittee shall backfill or protect any open excavations at the conclusion of each day.

17) Permittee shall not locate a water well, sewage treatment facility, septic tank, leach field, pond, swimming pool, manhole, junction box, catch basin or related facility within the limits of the Right of Way. Permittee shall not install, within the Right of Way, utilities or man-made structures parallel to Gulf South's pipeline(s).

18) Permittee shall not change the grade within the Right of Way. Permittee may add additional cover if it will not hinder normal maintenance and Permittee receives Gulf South's prior approval.

19) Permittee shall furnish Gulf South with an "as-built" plat of the Permitted Facilities to the extent said facilities cross Gulf South's Right of Way, said plat shall be provided within thirty (30) days of completion of the installation of the Permitted Facilities.

20) All crossings should be made as near to a ninety-degree (90°) angle as possible.

21) Permittee, and its independent contractors and subcontractors performing work under this Agreement, shall, at their sole expense, carry and maintain in force throughout the entire time they are performing work on, operate, or own the Permitted Facilities a minimum of $2 million per occurrence comprehensive general liability insurance, including contractual liability insurance, $2 million per occurrence employer's liability insurance, statutory worker's compensation insurance coverage and, where vehicles are used hereunder, $2 million per occurrence comprehensive automobile liability insurance, unless otherwise agreed to in writing by Gulf South. The above-mentioned insurance policies shall have Gulf South, its parent and affiliated companies, named as additional insureds, and all policies shall provide for waiver of all rights of subrogation against Gulf South, its parent and affiliated companies. A certificate of insurance evidencing that the above-mentioned insurance requirements are in effect shall be presented to the Gulf South Land Department prior to the beginning of any work addressed in this Agreement.

GULF PIPELINE

22) **TO THE FULLEST EXTENT PERMITTED BY LAW, PERMITTEE AGREES TO RELEASE, DEFEND, INDEMNIFY, AND HOLD GULF SOUTH AND ITS AFFILIATED ENTITIES AND THE OFFICERS AND EMPLOYEES OF EACH OF THEM (COLLECTIVELY REFERRED TO HEREINAFTER AS "INDEMNITEES") HARMLESS FROM AND AGAINST ANY LIABILITY, LOSS, CAUSE OF ACTION, PENALTY, FINE, COST (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES), CLAIM, OR STRICT LIABILITY CLAIM ARISING OUT OF OR IN ANY WAY INCIDENT TO THE WORK OR SERVICES PERFORMED BY PERMITTEE OR ITS CONTRACTORS OR THE EMPLOYEES OF EITHER, ON ACCOUNT OF PERSONAL INJURIES, DEATH, DAMAGE TO PROPERTY, OR DAMAGE TO THE ENVIRONMENT, REGARDLESS OF WHETHER SUCH HARM IS TO PERMITTEE, INDEMNITEES, THE EMPLOYERS OR OFFICERS OF EITHER, OR ANY OTHER PERSON OR ENTITY, AND REGARDLESS OF HOW SUCH INJURY/DEATH/DAMAGE IS CAUSED (BY INDEMNITEES' NEGLIGENCE, THE NEGLIGENCE OF THIRD PARTIES, OR OTHERWISE), BUT EXCLUDING INJURY/DEATH/DAMAGE TO THE EXTENT CAUSED BY THE SOLE (100%) NEGLIGENCE OF INDEMNITEES. PERMITTEE'S DUTIES UNDER THIS PARAGRAPH SHALL SURVIVE THE TERMINATION, REVOCATION, OR EXPIRATION OF THIS AGREEMENT.**

23) Permittee understands and agrees that it will be responsible for all costs, charges and expenses, specifically including, but not limited to, all attorney fees and legal costs and expenses incurred or paid by Gulf South in any matter growing out of or arising under this Agreement or in any proceedings arising out of or related to Permittee's obligations herein.

24) This Agreement and the terms and conditions hereof constitutes a covenant running with the property described in the above referenced deed and shall be binding upon and shall inure to the benefit of the parties hereto, their heirs, successors, and assigns.

25) Each portion of this Agreement is intended to be severable. If any term or provision hereof is illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of this Agreement.

26) To the extent that any portion of the foregoing terms and conditions conflict with any of the "Special Provisions" below, the terms and conditions of the "Special Provisions" shall control.

***SPECIAL PROVISIONS:**

1) Permittee shall schedule a pre-construction meeting with Gulf South to discuss all aspects of the planned activities, establish a pipeline-marking schedule, and establish lines of communication.

2) Permittee shall install its identification markers at the crossing boundaries of Gulf South's Right of Way. Permittee shall install its markers at the locations specified by Gulf South's Inspector.

3) Permittee shall use matting at equipment crossings if soil conditions are poor or wet, and rutting could occur.

4) Permittee shall make available its plans and construction methods to Gulf South upon request.

5) No staging of construction equipment, machinery, vehicles, or materials is allowed directly over Gulf South's pipeline(s) at any time throughout the duration of construction.

6) No travel up and down, or storage of equipment, machinery, vehicles, or materials are allowed in Gulf South's Right of Way.

7) Permittee shall utilize competent designees.

8) Permittee shall employ competent contractors for excavation near underground facilities.

9) Permittee or its excavation contractor shall provide a competent excavation observer to assist the equipment operator when operating excavation equipment near Gulf South's pipeline(s) and/or related facilities.

10) Gulf South's Right of Way is to be returned to the condition it was in prior to construction or better. This includes grading and reseeding with like vegetation as existing.

11) Permittee may be required, by Gulf South's on-site inspector, to use manual excavation within twenty-four (24) inches from the top and twenty-four (24) inches from each side of Gulf South's pipeline(s). For excavation outside of such boundaries, Permittee may utilize mechanical excavation under Gulf South supervision unless otherwise directed by Gulf South's on-site inspector.

12) For a bore method, Permittee shall install the Permitted Facilities across Gulf South's Right-of-Way such that there is a minimum of five (5) feet clearance between the Permitted Facilities and the Gulf South's pipeline(s).

13) If deemed necessary by Gulf South's on-site inspector at pre-excavation meeting, Permittee's bore contractor shall be required to excavate observation windows on either side of Gulf South's pipeline(s) to ensure proper distance of separation and avoidance of pipeline(s).

14) The Permitted Facilities shall be installed at a uniform depth across the full width of the Gulf South's Right-of-Way.

**Special Provisions Reviewed by Gulf South Engineering:* *SGC* *6/13/12*
Initials *Date*

ENERGY TRANSFER COMPANY PIPELINE
SEE NOTES ON SHEET 04 OF 154

ENERGY TRANSFER
Houston Pipe Line Company LP

711 Louisiana, Suite 900
Houston, Texas 77002
Energytransfer.com

May 2, 2012

VIA E- EMAIL

AECOM
5757 Woodway, Suite 101 West
Houston, Texas 77057

Attention: Mr. Evans

Reference: Cinco Municipal Utility District Proposed Waterline, crossing Houston Pipe Line Company HLP's Pearland-Katy 30-inch (3015) at approx sta. 1685+39 thru 1686+39, within Fort Bend County, Texas.

Dear Mr. Evans:

Houston Pipe Line Company LP (HPL) received your plans on December 5, 2011 concerning the subject project. At the subject location, HPL does own, operate and maintain, a 30-inch, steel, high-pressure, natural gas pipeline. HPL has determined that the proposed improvements will not at this time cause any adjustments to be made to HPL's Facilities and is agreeable to the proposed project **conditioned upon** and subject to the acceptance of and adherence to the following conditions by Cinco Ranch Municipal Utility District No. 1 and its contractor(s):

(1) No construction or excavation shall take place on or near HPL's pipeline easement area or HPL's Facilities until this letter agreement has been signed and returned to HPL.

(2) An HPL representative must have the opportunity to be present and be notified at least forty-eight (48) hours prior to any work (excavation or operation of heavy equipment) at or near the pipeline. The planning, scheduling, and performance of this work is to be coordinated with the following HPL Representative:

Name	Location	Telephone
Mr. Kory Parton Line Patrol Person	Bammel Office	(281) 850-1417 (cell)

Texas Utilities Code, Chapter 251, which is referred to commonly as the Texas One-Call Law requires that excavators in Texas notify a one-call notification center 48 hours prior to digging. HPL currently utilizes the Texas Excavation Safety System (**TESS**) as its notification center. You must contact the TESS notification center at 1-800-344-8377, in addition to contacting HPL's representative mentioned above, before commencing any construction activity at or near HPL's Facilities. HPL respectfully requests that a note be placed onto your construction drawings informing your contractor(s) of the name and phone

ENERGY TRANSFER COMPANY PIPELINE
SEE NOTES ON SHEET 04 OF 154

Subject: Cinco Ranch Reclaimed Water System
May 2, 2012
Page: 2 of 3

numbers for the HPL representative mentioned above and stating that a minimum of 48 hours notice be given before any construction activity takes place.

(3) HPL's agreement to the subject project is based upon your construction plans attached hereto as "Exhibit A." Should your design change, you must submit to HPL one (1) set of revised drawings for review and approval prior to commencing any of the work.

(4) In the event Cinco Ranch Municipal Utility District No. 1 or its contractors need to cross over or along HPL's Facilities with heavy construction equipment, HPL reserves the right to require the contractor(s) to furnish and install temporary matting and/or earthen fill over the pipeline in order to protect the pipeline from heavy equipment loads.

(5) HPL Facilities shall be positively located before the Encroachments are constructed or installed near HPL Facilities. HPL requires that an absolute minimum clearance of 24-inches be maintained between the outside diameter of HPL's 4-inch pipeline (top, bottom, and sides) and any of your facilities. Longitudinal occupancy of HPL's right-of-way will not be permitted. Soil compaction activities over HPL Facilities require eight inch lifts of backfill material compacted to a minimum proctor density of 95%. Soil backfill shall be compacted to the satisfaction of HPL onsite inspector so that settling does not occur.

(6) Cinco Ranch Municipal Utility District No. 1 or its contractor(s) shall not plant trees with in the easement. Planting shall be limited to lawn and low growing (less than three feet at maturity) shrubs within the easement area.

(7) HPL requires the pipeline easement to remain clear of any temporary or permanent structures, such as buildings, lighting structures, signs, sign supports, fencing, sprinkler systems not to be buried deeper than 12-inches, anchors, etc. in order that proper maintenance and operation of its facilities can proceed unobstructed.

(8) Cinco Ranch Municipal Utility District No. 1 or its contractors agree to alter, modify or halt any construction activity, which in the opinion of HPL's onsite inspector, threatens or endangers HPL's facilities.

(9) If it becomes necessary for HPL to excavate its subject pipeline for inspection, repair or replacement, HPL will not be responsible for any damages to your facilities within HPL's easement area, except for any damages caused by HPL's sole negligence.

Cinco Ranch Municipal Utility District No. 1 agrees to indemnify, protect and hold HPL, its parent, affiliate(s), subsidiary(s), and their director(s), officer(s), employee(s), representative(s), and agent(s) harmless from and against any and all actions or causes of action, claims, demands, liabilities, loss, damage, injury, suit, proceeding, judgment, cost or expense of whatever kind or nature, including but not limited to reasonable attorneys' fees, arising from damage caused to HPL's facilities as a result of or incidental to the design, construction, presence or use of your facilities within HPL's pipeline easement. You further agree that the construction, operation, maintenance, use or presence of your

ENERGY TRANSFER COMPANY PIPELINE
SEE NOTES ON SHEET 04 OF 154

Subject: Cinco ranch Reclaimed Water System
May 2, 2012
Page: 3 of 3

facilities shall not impair the construction, operation, maintenance, use or presence of the HPL Facilities and its easement area (including, without limitation, HPL's right to subjacent and sublateral support for its pipeline) and you shall be responsible for any impairment thereto caused by the activities of you, your employee(s), contractor(s), agent(s), invitee(s) or licensee(s), except to the extent any such loss or impairment is proximately caused by the sole negligence of HPL, its employee(s) or designated agent(s)If the foregoing is in accordance with your understanding of our agreement, please have a duly authorized officer of the Cinco Ranch Municipal Utility District No. 1 print out one copy execute in the space provided, e-mail it back to me, and I will execute it and send a copy back to you.

Should you have any questions, please feel free to contact me at (832) 668-1165.

Sincerely,

HOUSTON PIPE LINE COMPANY LP

Daniel Byvl
Project Assistant

Cinco Ranch Municipal Utility District No. 1

ACCEPTED AND AGREED TO this

____ day of _____, 20__

By: _____

Signature: _____

Title: _____

Attachments:

cc: Merl Vanek w/ attachments
Kory Patron w/ attachments
Project No. 11177

S:\Operations-Asset Mgt\Encroachment\Encroachment Dept\Encroachment Info\Projects\2011\11177 waterline Cinco-Houstno objection letter.doc

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____
ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-18-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM A Lee 4.15.14	FACILITIES Javad Amir 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
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SHEET No: 144 OF 154

52149 CITY DRAWING NUMBER HOUSTON, TEXAS

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AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
www.aecom.com
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/16/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM
MISCELLANEOUS APPROVALS (SHEET 2 OF 2)

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CAD DWG FILE: LY-CV-DT
DESIGNED BY: DE
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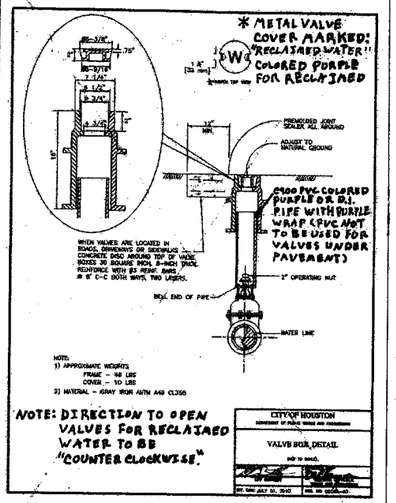
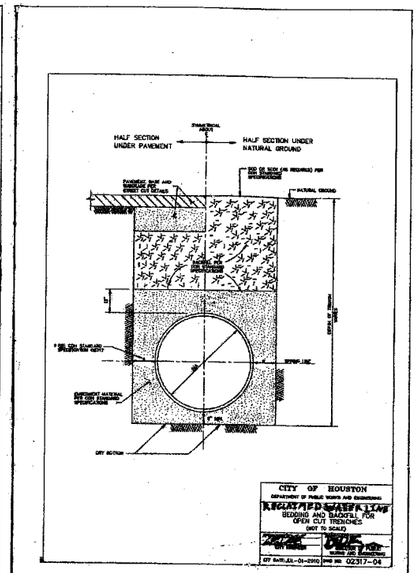
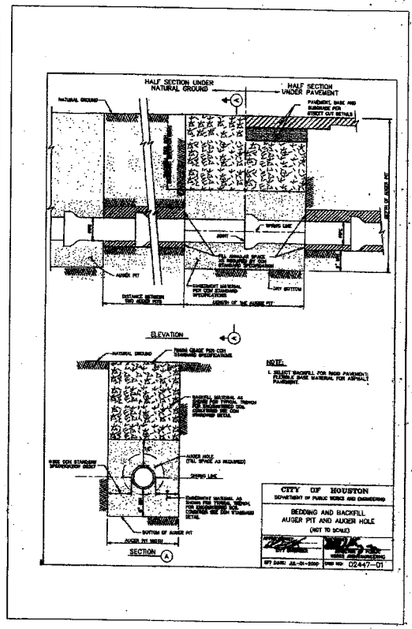
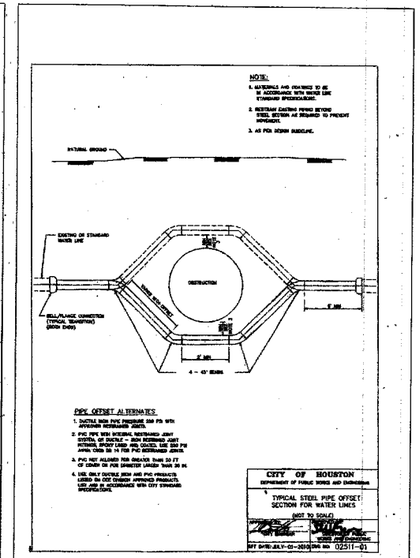
SHEET 144 OF 154

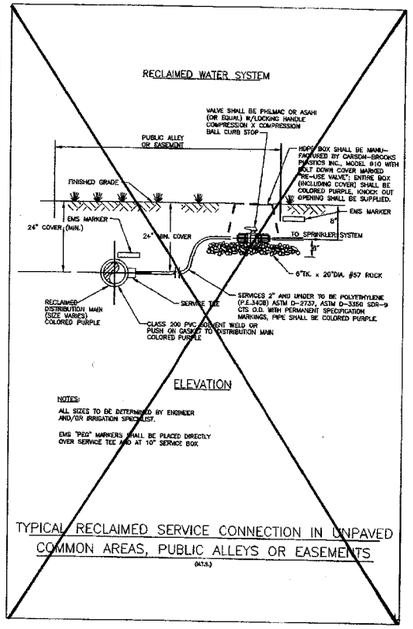
PATH/FILENAME: L:\CIVIL\...\LY-CV-DT.DWG
LAST UPDATE: Monday, May 7, 2012 8:41:39 AM
PLOT DATE: Monday, November 19, 2012 8:58:14 AM
ANSI D – 19-Nov-12

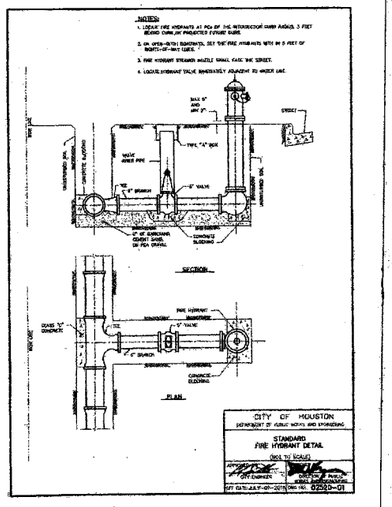


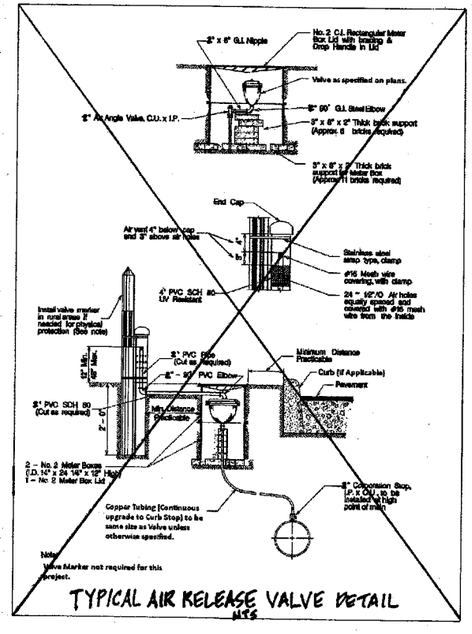


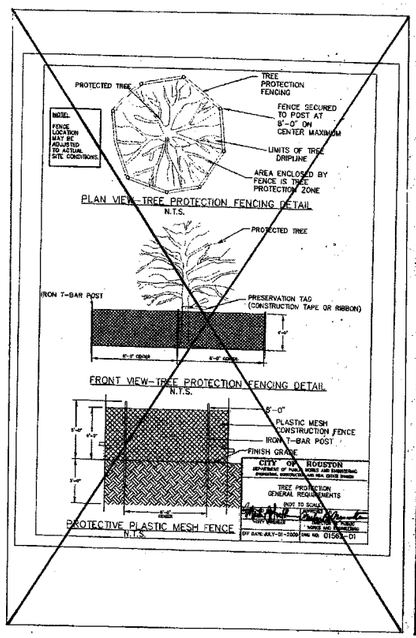


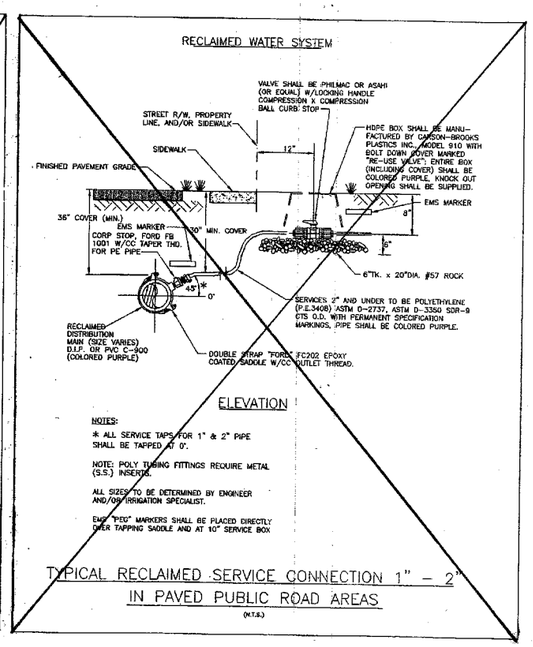












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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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WATER	TRAFFIC & TRANSPORTATION
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713.735.0000 FAX 713.735.0555
TBPE REG. NO. F-3580

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

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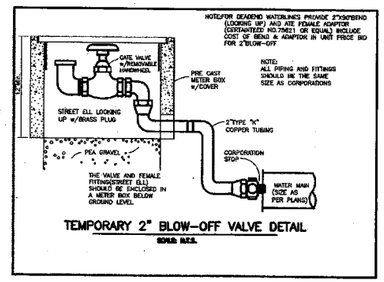
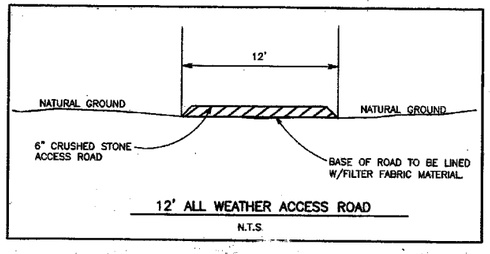


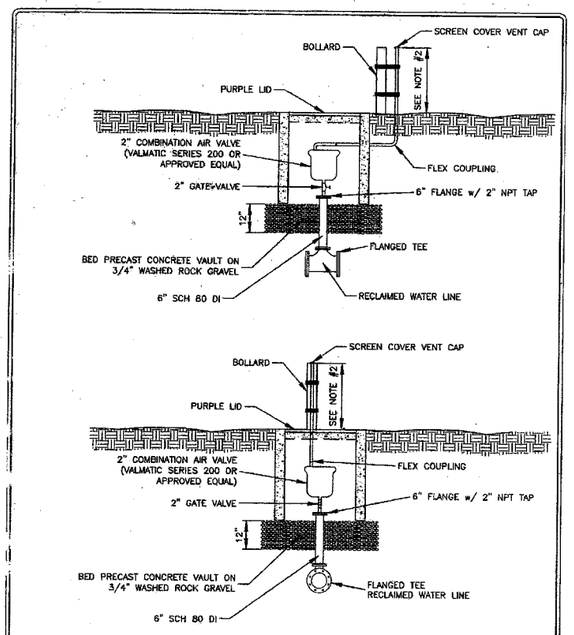
TEMPORARY 2" BLOW-OFF VALVE DETAIL

SCALE: N.T.S.



12' ALL WEATHER ACCESS ROAD

N.T.S.

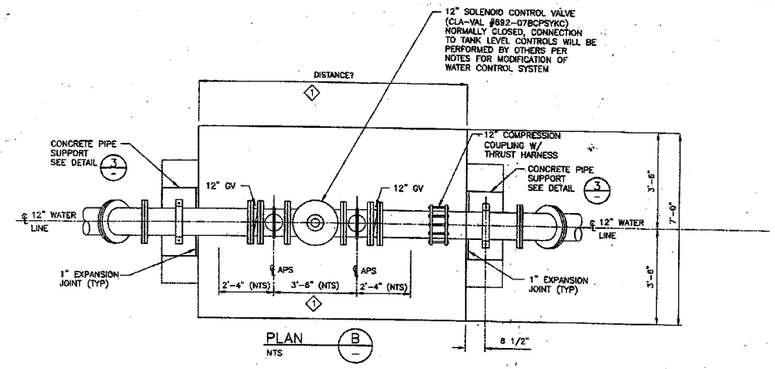


NOTES:

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND STEEL SUPPORT PIPE SHALL BE CLEANED, PREPPED, PRIMED AND PAINTED WITH SHERWIN WILLIAMS PANTONE 522C PURPLE PAINT, OR APPROVED EQUAL.
2. THE AIR VENT PIPE SHALL BE 3' MINIMUM IN HEIGHT AND SHALL BE SUPPORTED BY A 4" STEEL PIPE, WHICH IS TO BE SET IN 2500 P.S.I. CONCRETE, FILLED WITH CONCRETE AND SUPPORTED WITH 2 STAINLESS STEEL CLAMPS.

ALTERNATE 2" AIR RELEASE VALVE INSTALLATION DETAIL

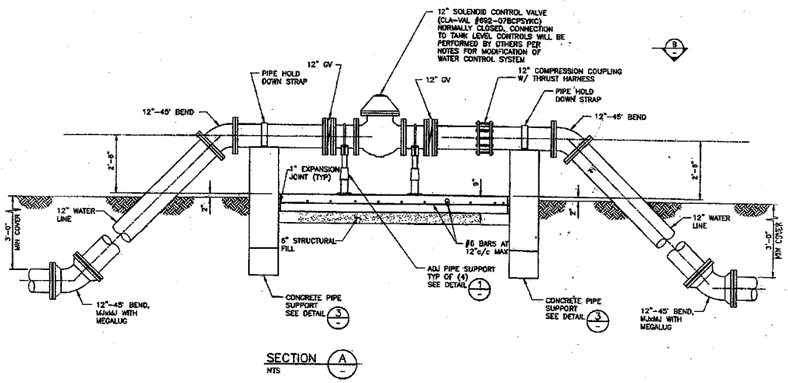
NTS



PLAN B NTS

NOTES: ◇

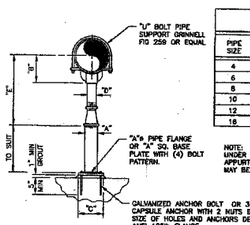
1. DIMENSION TO BE DETERMINED UPON SHOP DRAWING APPROVAL.



SECTION A NTS

NOTES:

1. SOLENOID CONTROL VALVE STATION PIPING TO BE DUCTILE IRON OR STEEL. PIPING TO BE BLASTED AND COATED PER CITY OF HOUSTON SPECIFICATIONS.
2. ALL ABOVE GROUND PIPING TO BE RESTRAINED AND PAINTED PURPLE.
3. COORDINATE TO ALLOW ELECTRICAL CONDUIT STUB-UPS TO BE PLACED IN SLAB BY OTHERS.
4. CONTRACTOR TO INSTALL ALUMINUM ENCLOSURE OVER SOLENOID CONTROL VALVE. VENDOR TO BE "HOT BOX" OR APPROVED EQUAL. NO SEPARATE PAY.



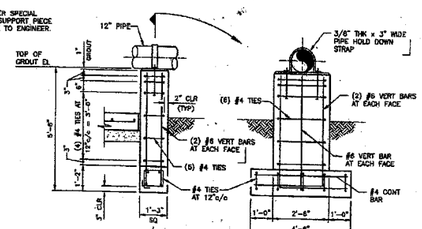
ADJUSTABLE PIPE SUPPORT (APS) DETAIL 1 NTS

(4) REQUIRED

ADJUSTABLE PIPE SUPPORT APPROX DIMENSIONS IN INCHES

PIPE SIZE	A	B	C SQUARE	D	E MIN	F MAX
4	3	4 3/16	9	2 1/2	9 1/4	14
6	3	5 7/16	9	2 1/2	10 1/2	15 1/4
8	3	6 15/16	9	2 1/2	11 3/4	16 1/2
10	3	8 7/16	9	2 1/2	13 1/2	16 1/4
12	3	9 15/16	9	2 1/2	15	19 3/4
16	4	11 1/2	12	3	15	19 3/4

NOTE: UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER.



CONCRETE PIPE SUPPORT DETAIL 3 NTS

SOLENOID CONTROL VALVE DETAILS

NTS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 7

DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
2/21/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1
CINCO RANCH RECLAIMED WATER SYSTEM
MISCELLANEOUS DETAILS (SHEET 2 OF 3)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: ASSISTANT TO THE COUNTY ENGINEER

DATE: 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE 4.15.14	4.3.14

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 146 OF 154

52149
GRID DRAWING NUMBER

PROJECT NO:	60194669 (WSU)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JF
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 146 OF 154

PRINTED: LA\HOU\60194669\CAD\LY-CV-DT.DWG
LAST UPDATE: Monday, November 19, 2012 8:56:30 AM
PLOT DATE: Monday, November 19, 2012 8:56:27 AM
ANSI D — 19-Nov-12

RECLAIMED WATER SYSTEM

SPECIFICATIONS:

A. DUCTILE IRON, FERROUS METALS, BRASS AND COPPER

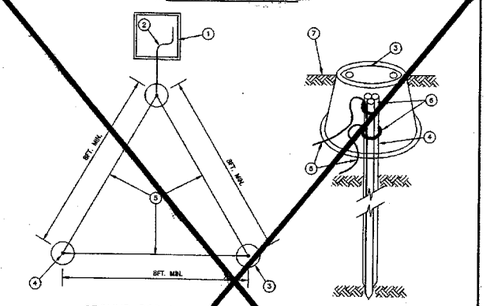
1. SANDBLAST OR POWER TOOL CLEAN REMOVING ALL RUST OR ASPHALTIC COATINGS.
2. APPLY ONE COAT OF TNEMEC 135 ALUMINUM EPOXY AT 6 MILS WET
3. APPLY ONE COAT OF TNEMEC 135 PIGMENTED EPOXY AT 6 MILS WET
4. INSTALL SIKA 1A CAULKING IN ANY OPEN GAPS
5. APPLY ONE TNEMEC 73 SERIES URETHANE IN COLOR "SAFETY PURPLE" SC08A AT 6 MILS WET

B. BRASS AND COPPER

1. SOLVENT CLEAN WITH R-97 SOLVENT
2. APPLY ONE FULL COAT OF TNEMEC 135 PIGMENT EPOXY AT 6 MILS WET
3. APPLY ONE TNEMEC 73 SERIES URETHANE IN COLOR "SAFETY PURPLE" SC08A AT 6 MILS WET

PIPE PAINTING SPECIFICATIONS FOR ALL RECLAIMED WATER POINT OF CONNECTIONS

RECLAIMED WATER SYSTEM



GROUND ROD LAYOUT

GROUND ROD ASSEMBLY

LEGEND

1. FIELD SATELLITE OR CCU ASSEMBLY.
2. #10 AWG SOLID BARE COPPER WIRE FROM GROUNDING ROD TO SATELLITE OR CCU. MAKE WIRE AS SHORT AND STRAIGHT AS POSSIBLE.
3. COVER GROUNDING ROD WITH 10" ROUND VALVE BOX.
4. 5/8" X 8' COPPER CLAD GROUNDING ROD. INSTALL RODS IN SOIL IN A TRIANGULAR PATTERN SPACED A MINIMUM OF 8' APART FROM EACH OTHER. GROUNDING GRID TO HAVE A RESISTANCE OF 5 OHMS OR LESS.
5. #10 AWG BARE COPPER WIRE BETWEEN GROUNDING RODS.
6. BRASS WIRE CLAMPS USE SEPERATE CLAMP FOR EACH WIRE.
7. FINISH GRADE.

3-ROD GROUNDING GRID INSTALLATION

THE 3 RODS SHALL BE DRIVEN INTO THE GROUND WITH THE TOP OF THE ROD AT LEAST 6" BELOW THE FINISH GRADE. THE RODS SHALL BE TIED TOGETHER BELOW GRADE WITH #10 GAUGE OR LARGER BARE COPPER WIRE. THE WIRE SHALL BE ATTACHED TO THE ROD USING A BRASS CLAMP. A SEPARATE BRASS CLAMP SHALL BE USED FOR EACH ATTACHMENT. NOTE: NO MORE THAN ONE WIRE SHALL BE USED IN ANY GROUNDING CLAMP. MULTIPLE WIRES SHALL NOT BE ALLOWED. ANY ROD THAT HAS A GROUND WIRE CONNECTED TO IT, COMING FROM THE SURGE ARRESTOR AT THE EQUIPMENT OR GROUNDING THE EQUIPMENT, SHALL HAVE A 6" ANCTEX OR CARSON VALVE BOX, PURPLE COLOR INSTALLED AROUND THE TOP OF THE ROD. THIS SHALL PROVIDE FUTURE ACCESS FOR MAINTENANCE.

3-ROD GROUNDING GRID DETAIL

RECLAIMED WATER SYSTEM

RECLAIMED WATER IN USE FOR IRRIGATION

"DO NOT DRINK" "NO BEBER"

"DO NOT SWIM" "NO NADAR"

STORAGE PONDS & DECORATIVE WATER FEATURES

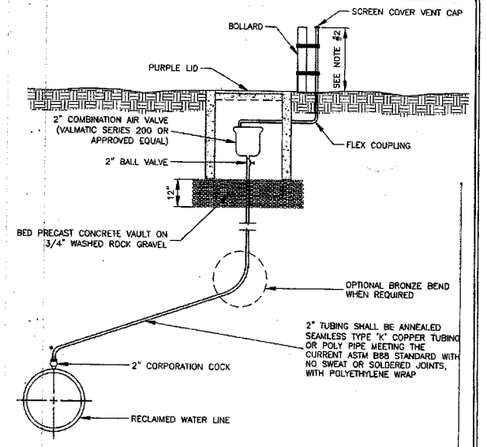
RECLAIMED WATER IN USE FOR IRRIGATION

"DO NOT DRINK"

"NO BEBER"

ALL ADVISORY SIGNS & LABELS

SIGNAGE



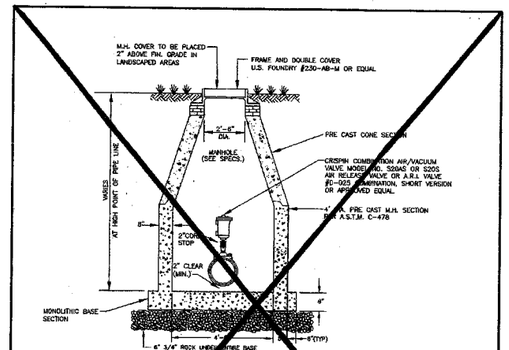
* THREAD TO COMPRESSION BRASS ELBOW ALLOWED IF NECESSARY DUE TO DEPTH LIMITATIONS.

NOTES:

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND STEEL SUPPORT PIPE SHALL BE CLEANED, PREPPED, PRIMED AND PAINTED WITH SHERWIN WILLIAMS PANTONE 522C PURPLE PAINT, OR APPROVED EQUAL.
2. THE AIR VENT PIPE SHALL BE 3' MINIMUM IN HEIGHT AND SHALL BE SUPPORTED BY A 4" STEEL PIPE, WHICH IS TO BE SET IN 2500 P.S.I. CONCRETE, FILLED WITH CONCRETE AND SUPPORTED WITH 2 STAINLESS STEEL CLAMPS.

2" AIR RELEASE VALVE INSTALLATION DETAIL

NTS

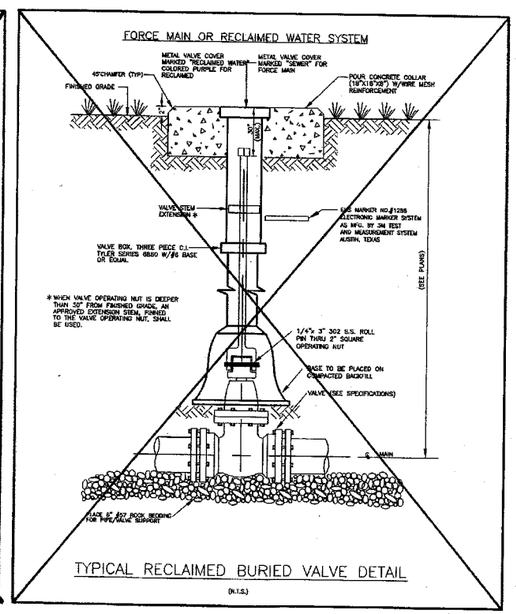


NOTE

1. EASEMENT CONDITION IS UTILIZED, AIR VALVE IN MANHOLE STRUCTURE SHALL BE ADEQUATELY SUPPORTED ON A 4" THICK CONCRETE PAD ON M.H. FLOOR.
2. IN GRASSED OR SHRUB AREAS, IN LIEU OF A MANHOLE STRUCTURE, AIR RELEASE VALVE MAY BE PLACED IN A COR BOX, SEE DETAIL SD-19A.
3. IN SITUATIONS WHERE A FORCE MAIN CROSSES A CANAL OR IS ATTACHED TO A BRIDGE, WHERE A STRUCTURE IS NOT NECESSARY AN A.R.V TYPE A.R.I. MODEL #S-020 SHALL BE USED.

AUTOMATIC AIR RELEASE VALVE

FORCE MAIN OR RECLAIMED WATER SYSTEM



TYPICAL RECLAIMED BURIED VALVE DETAIL

(N.T.S.)

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-02	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 147 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/2/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

MISCELLANEOUS DETAILS (SHEET 3 OF 3)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 147 OF 154

PATH/FILENAME: L:\CINCO\60194669\DWG\LY-CV-DT.DWG
LAST SAVED: Monday, November 19, 2012 8:41:28 AM
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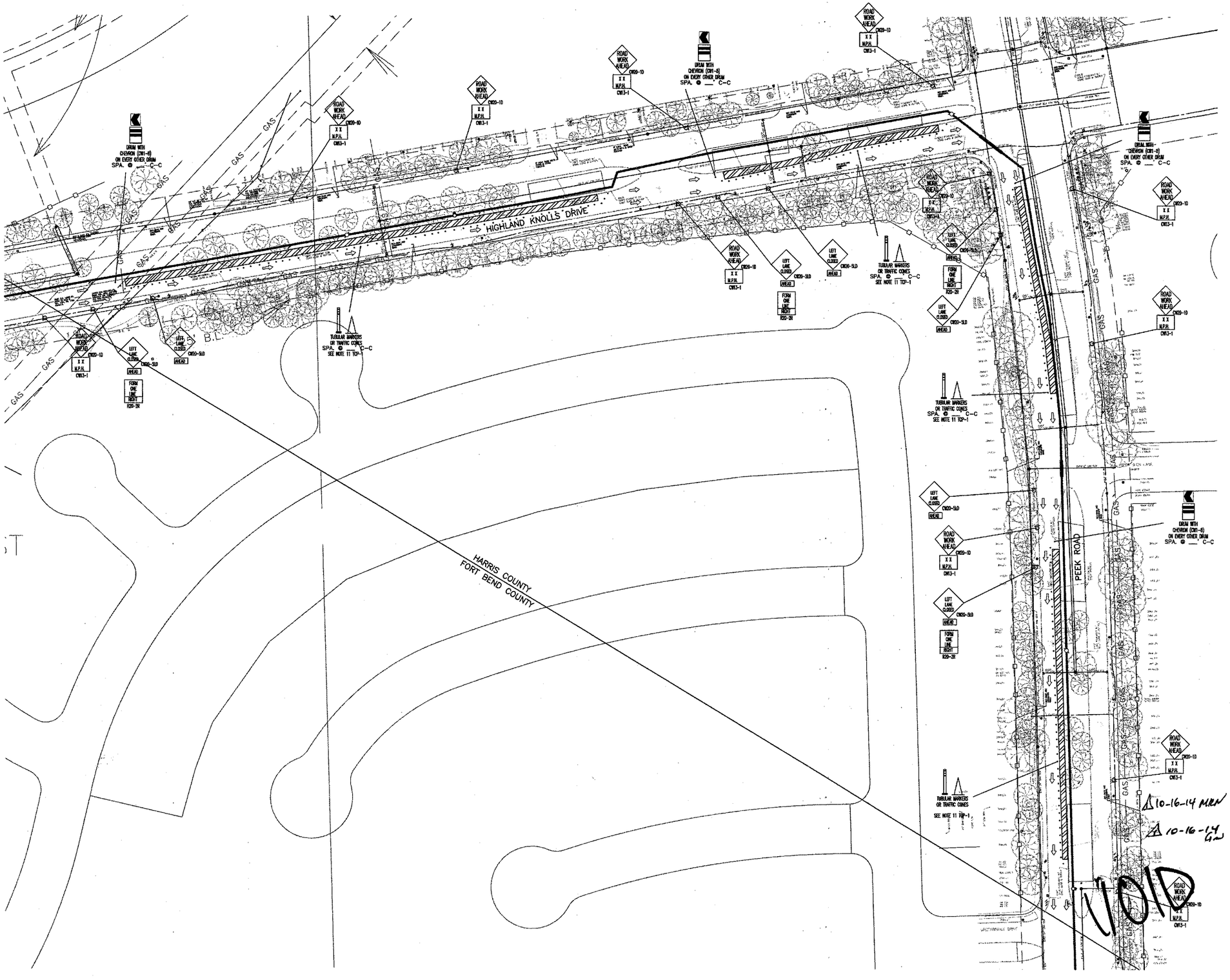
ANSI D - 19-Nov-12



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APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/14/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 10-6-14 12-13-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 10-16-14 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 148 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
5/12/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

HARRIS COUNTY TRAFFIC CONTROL LAYOUT (SHEET 1 OF 2)

PROJECT NO:	60194689 (WSO)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 148 OF 154

PATH/FILENAME: L:\CINCO\...\DWG\P&P-MISC.DWG
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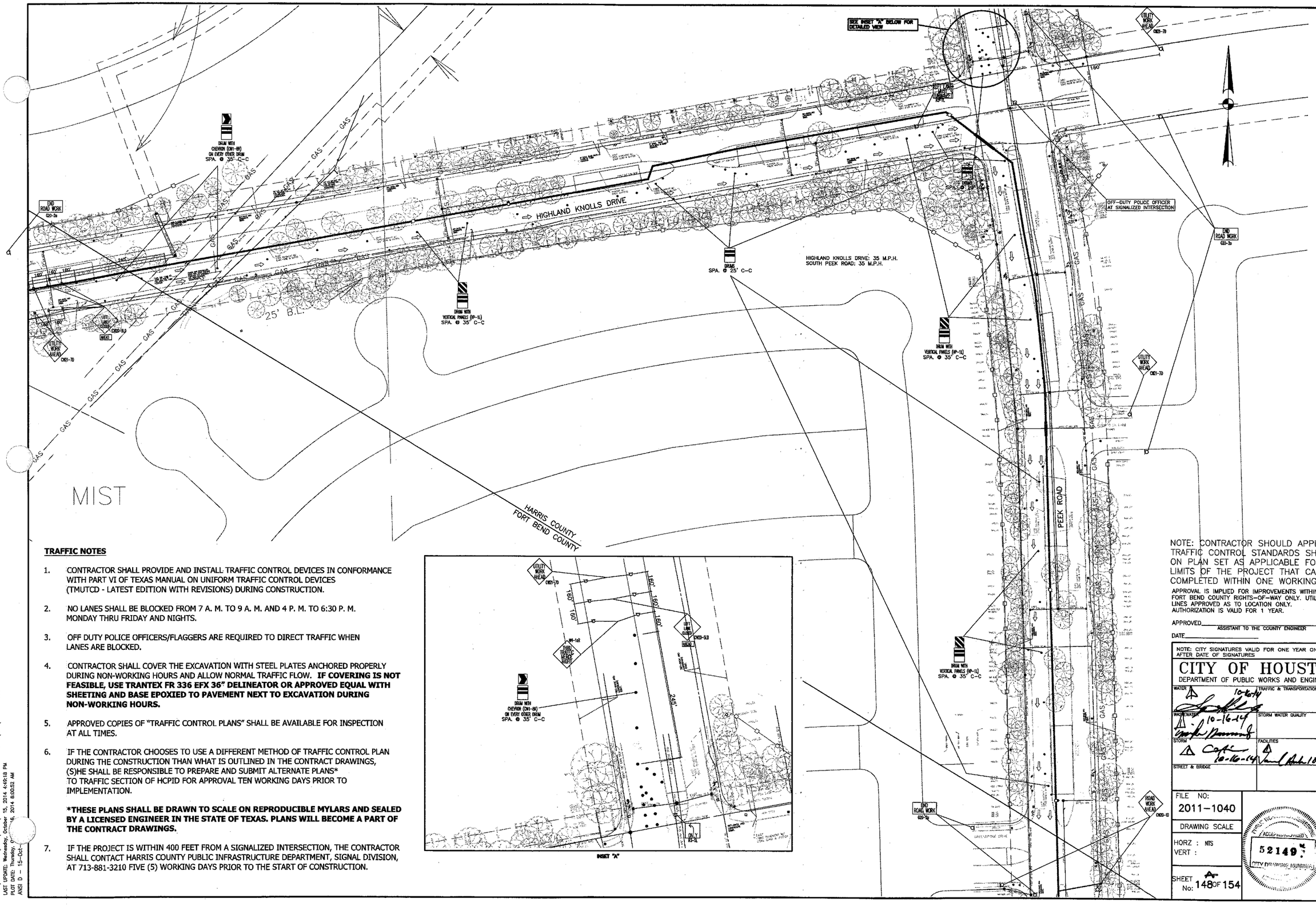
ANSI D - 20-Nov-12



TRAFFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD - LATEST EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. NO LANES SHALL BE BLOCKED FROM 7 A. M. TO 9 A. M. AND 4 P. M. TO 6:30 P. M. MONDAY THRU FRIDAY AND NIGHTS.
3. OFF DUTY POLICE OFFICERS/FLAGGERS ARE REQUIRED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED.
4. CONTRACTOR SHALL COVER THE EXCAVATION WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS AND ALLOW NORMAL TRAFFIC FLOW. **IF COVERING IS NOT FEASIBLE, USE TRANTEX FR 336 EFX 36" DELINEATOR OR APPROVED EQUAL WITH SHEETING AND BASE EPOXIED TO PAVEMENT NEXT TO EXCAVATION DURING NON-WORKING HOURS.**
5. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF TRAFFIC CONTROL PLAN DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT ALTERNATE PLANS* TO TRAFFIC SECTION OF HCPID FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.

   ***THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS.**
7. IF THE PROJECT IS WITHIN 400 FEET FROM A SIGNALIZED INTERSECTION, THE CONTRACTOR SHALL CONTACT HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, SIGNAL DIVISION, AT 713-881-3210 FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

NOTE: CONTRACTOR SHOULD APPLY TRAFFIC CONTROL STANDARDS SHOWN ON PLAN SET AS APPLICABLE FOR THE LIMITS OF THE PROJECT THAT CAN BE COMPLETED WITHIN ONE WORKING DAY.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED_____
ASSISTANT TO THE COUNTY ENGINEER

DATE_____

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 10-16-14	TRAFFIC & TRANSPORTATION
WASTEWATER 10-16-14	STORM WATER QUALITY
STORM 10-16-14	FACILITIES 10-16-14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 148 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
A	10/16/14	DE	JE	Re-did Traffic control Plan

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
10/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

HARRIS COUNTY TRAFFIC CONTROL LAYOUT (SHEET 1 OF 2)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 148A OF 154

PATH/FILENAME: P:_JOBS\CINCO\60194669 - CINCO MUD 1 REUSE\DWG\P&P-MISC.DWG
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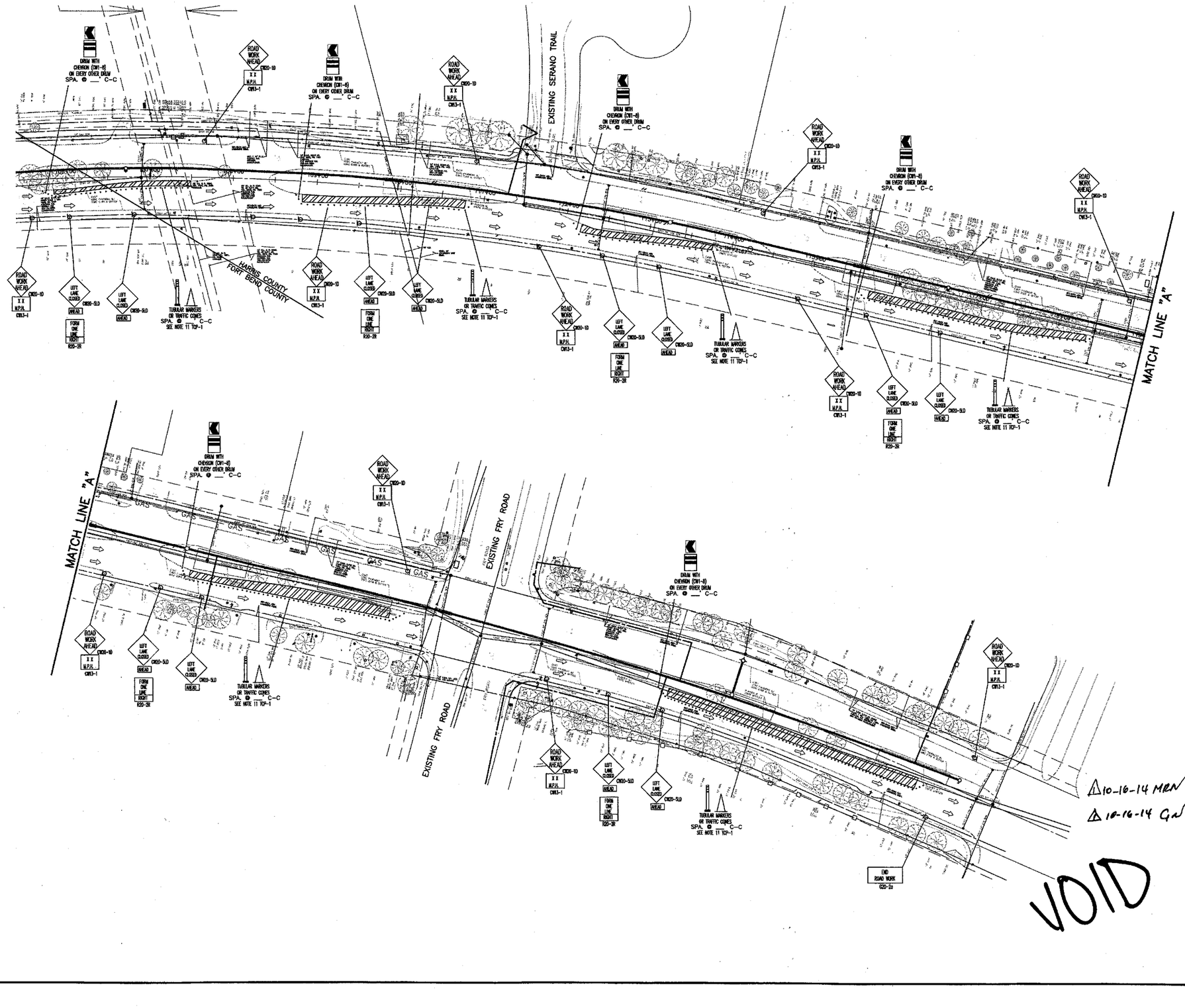
PLOT DATE: Thursday, October 16, 2014 6:30:52 AM
ANSI D - 15-Oct-12



VOID

10-16-14 MRN

10-16-14 GN

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 10-16-14 12-18-12	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES 10-16-14 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 149 OF 154

52149 CITY DRAWING NUMBER HOUSTON TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1589
WWW.AECOM.COM
TBPE REG. NO. F-5580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
11/30/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

HARRIS COUNTY TRAFFIC CONTROL LAYOUT (SHEET 2 OF 2)

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 149 OF 154

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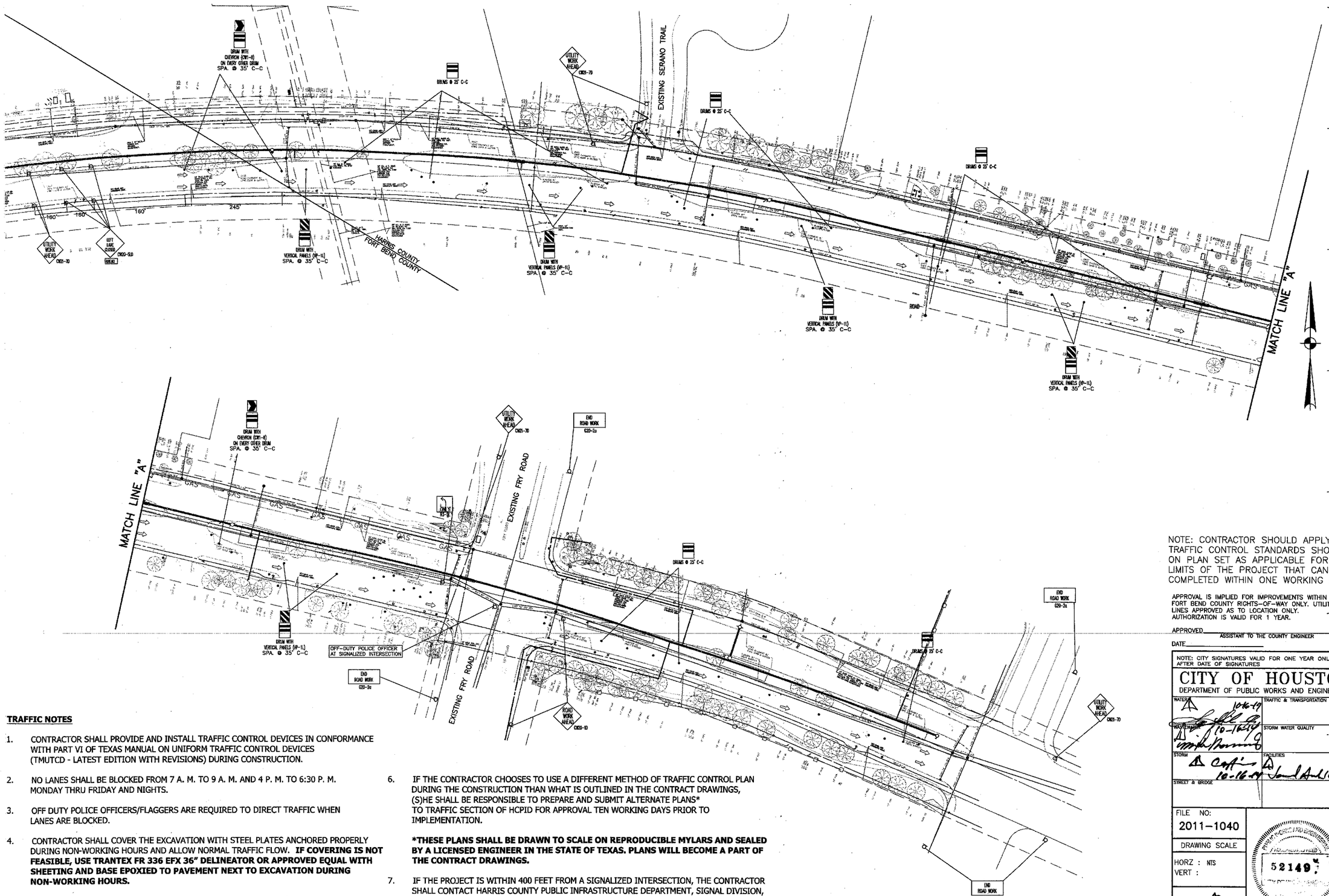

TRAFFIC NOTES

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7. IF THE PROJECT IS WITHIN 400 FEET FROM A SIGNALIZED INTERSECTION, THE CONTRACTOR SHALL CONTACT HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, SIGNAL DIVISION, AT 713-881-3210 FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

NOTE: CONTRACTOR SHOULD APPLY TRAFFIC CONTROL STANDARDS SHOWN ON PLAN SET AS APPLICABLE FOR THE LIMITS OF THE PROJECT THAT CAN BE COMPLETED WITHIN ONE WORKING DAY.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED_____
ASSISTANT TO THE COUNTY ENGINEER

DATE_____

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE
HORZ : NTS
VERT :

SHEET No: 149A OF 154

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
4	10/16/14	GD	JH	Re-d'd traffic control plan

REVISIONS

AECOM
AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1598
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
10/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

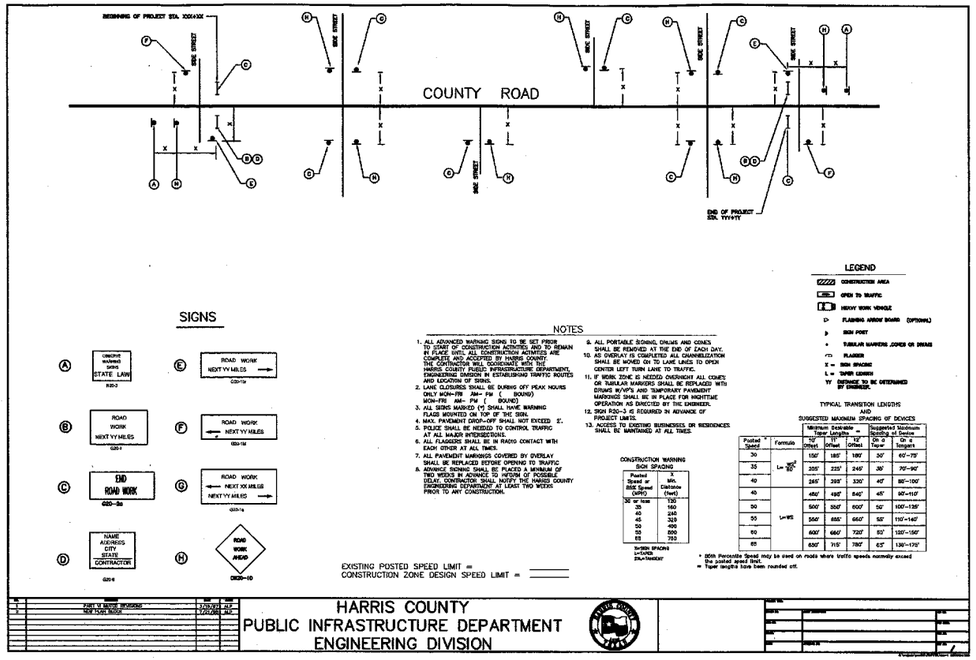
CINCO RANCH RECLAIMED WATER SYSTEM

HARRIS COUNTY TRAFFIC CONTROL LAYOUT (SHEET 2 OF 2)

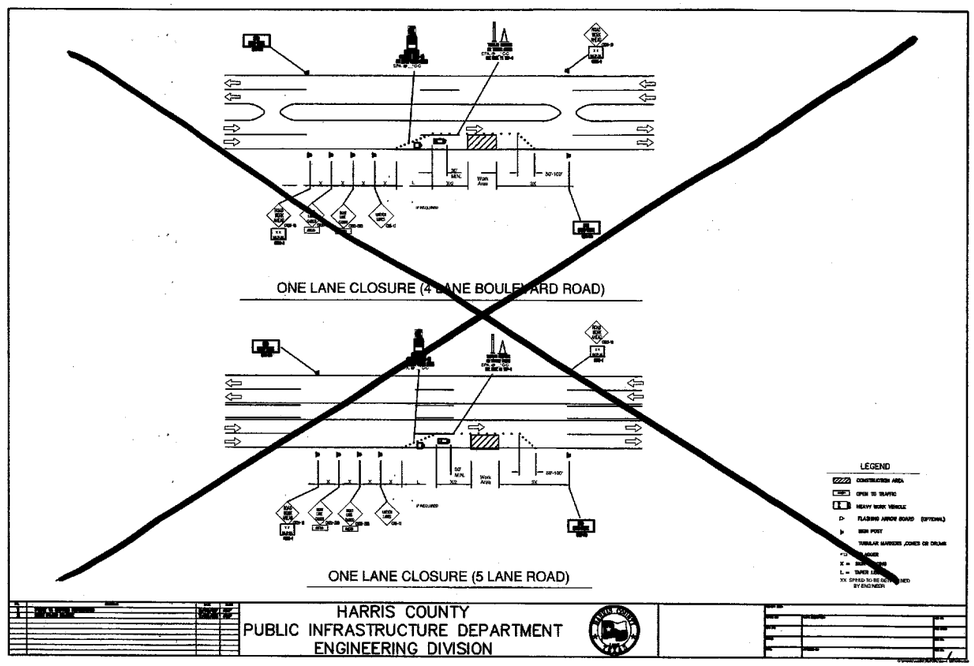
PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	P&P-MISC
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	DECEMBER 2012
SCALE:	NTS

SHEET 149A OF 154

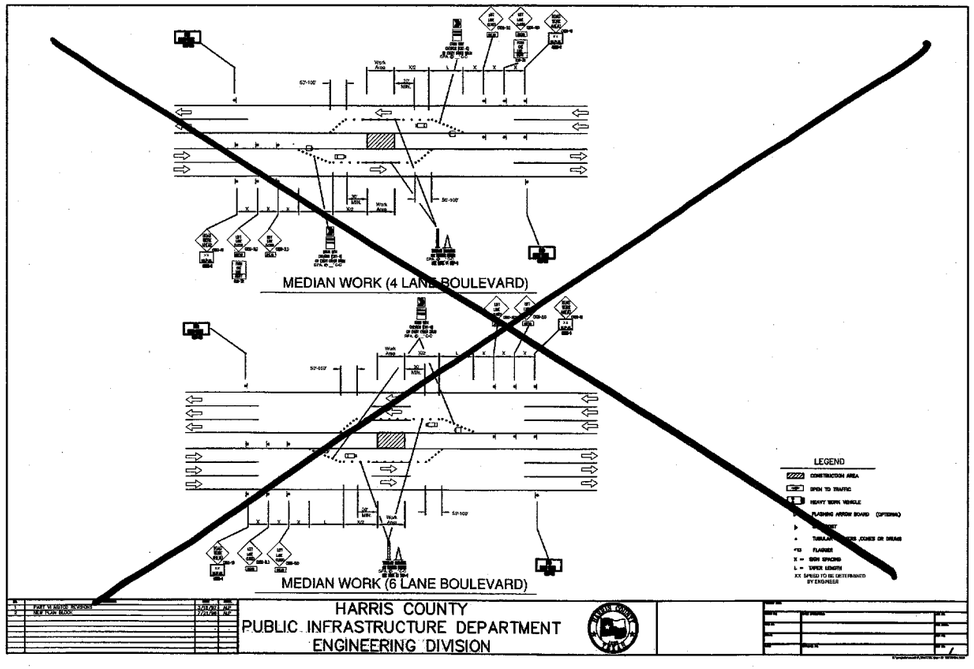
PATH/FILENAME: P:\...\60194669 - CINCO MUD 1 REUSE\DWG\P&P-MISC.DWG
LAST UPDATE: Wednesday, October 15, 2014 4:48:18 PM
PLOT DATE: Thursday, October 16, 2014 8:01:31 AM
ANSI D - 15-Oct-14



HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT
ENGINEERING DIVISION



HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT
ENGINEERING DIVISION



HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT
ENGINEERING DIVISION

TRAFFIC CONTROL PLAN GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD– LATEST EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. NO LANES SHALL BE BLOCKED FROM 7AM TO 9AM AND 4PM TO 6:30PM MONDAY THRU FRIDAY
3. OFF DUTY POLICE OFFICERS/FLAGGERS ARE REQUIRED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED.
4. CONTRACTOR SHALL COVER THE EXCAVATION WITH STEEL PLATES ANCHORED PROPERLY DURING NON–WORKING HOURS AND ALLOW NORMAL TRAFFIC FLOW. IF COVERING IS NOT FEASIBLE, USE TRANTEX FR 336 EFX 36" DELINEATOR OR APPROVED EQUAL WITH SHEETING AND BASE EPOXIED TO PAVEMENT NEXT TO EXCAVATION DURING NON–WORKING HOURS.
5. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF TRAFFIC CONTROL PLAN DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT ALTERNATE PLANS* TO TRAFFIC SECTION OF HCPID FOR APPROVAL TEN (10) WORKING DAYS PRIOR TO IMPLEMENTATION.
   (*THESE DRAWINGS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. PLANS WILL BECOME PART OF THE CONTRACT DRAWINGS.)
7. IF THE PROJECT IS WITHIN 400 FEET OF A SIGNALIZED INTERSECTION, THE CONTRACTOR SHALL CONTACT HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, SIGNAL DIVISION, AT 713–881–3210 FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
8. [redacted] AND TO REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND ACCEPTED BY HARRIS COUNTY. THE CONTRACTOR WILL COORDINATE WITH THE HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, ENGINEERING DIVISION, FOR ESTABLISHING TRAFFIC ROUTES AND LOCATION OF SIGNS.
9. POLICE SHALL BE NEEDED TO CONTROL TRAFFIC AT ALL MAJOR INTERSECTIONS.
10. ALL FLAGGERS SHALL BE IN RADIO CONTACT WITH EACH OTHER AT ALL TIMES.
11. ALL PAVEMENT MARKINGS COVERED BY OVERLAY SHALL BE REPLACED BEFORE OPENING TO TRAFFIC.
12. ADVANCE SIGNING SHALL BE PLACED A MINIMUM OF TWO WEEKS IN ADVANCE TO INFORM OF POSSIBLE DELAY. CONTRACTOR SHALL NOTIFY THE HARRIS COUNTY ENGINEERING DEPARTMENT AT LEAST TWO WEEKS PRIOR TO ANY CONSTRUCTION.
13. ALL PORTABLE SIGNING, DRUMS AND CONES SHALL BE REMOVED AT THE END OF EACH DAY.
14. AS OVERLAY IS COMPLETED, ALL CHANNELIZATION SHALL BE MOVED ON TO LANE TO LANE TO OPEN CENTER LEFT TURN LANE TO TRAFFIC.
15. IF WORK ZONE IS NEEDED OVERNIGHT, ALL CONES OR TUBULAR MARKERS SHALL BE REPLACED WITH DRUMS A/W P'S AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE FOR NIGHTTIME OPERATION AS DIRECTED BY THE ENGINEER.
16. [redacted] R20–3 IS REQUIRED IN ADVANCE OF PROJECT LIMITS.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS–OF–WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: _____
ASSISTANT TO THE COUNTY ENGINEER

DATE: 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: 12-12-14	TRAFFIC & TRANSPORTATION
WASTEWATER: 4-8-14	STORM WATER QUALITY
STORM: 4-15-14	FACILITIES: 4.3.14
STREET & BRIDGE	

FILE NO: 2011–1040

DRAWING SCALE
HORZ : NTS
VERT :

SHEET No: 150 OF 154

52149 CITY DRAWING NUMBER

NO.	DATE	MADE BY	APPROVED	DESCRIPTION

REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TX 77057–1599
WWW.AECOM.COM
TBPE REG. NO. F–3580

PROJECT NO. 60194689, CONTRACT NO. 1

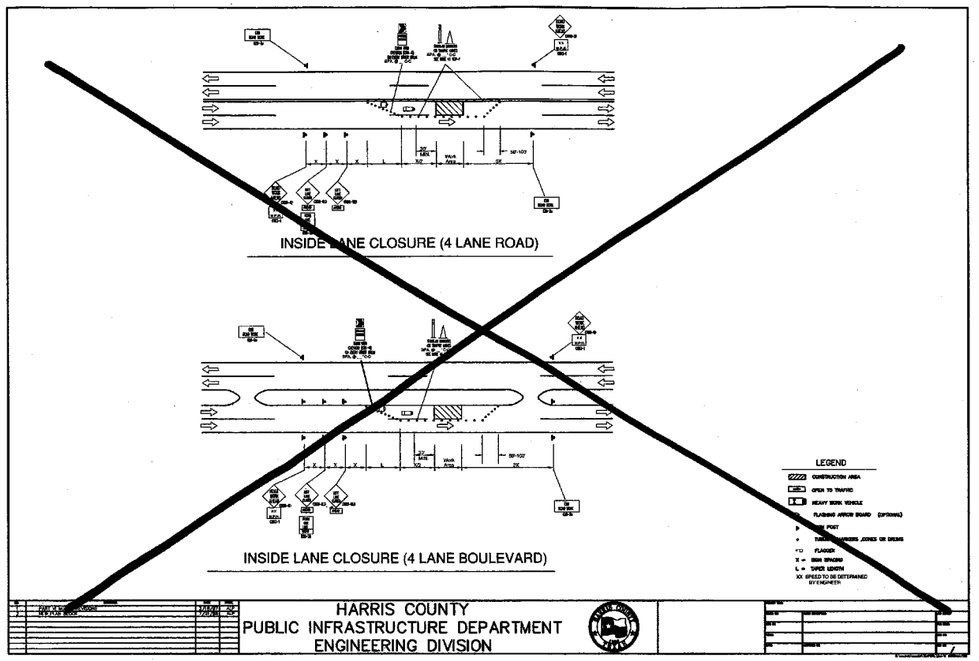
STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/19/12

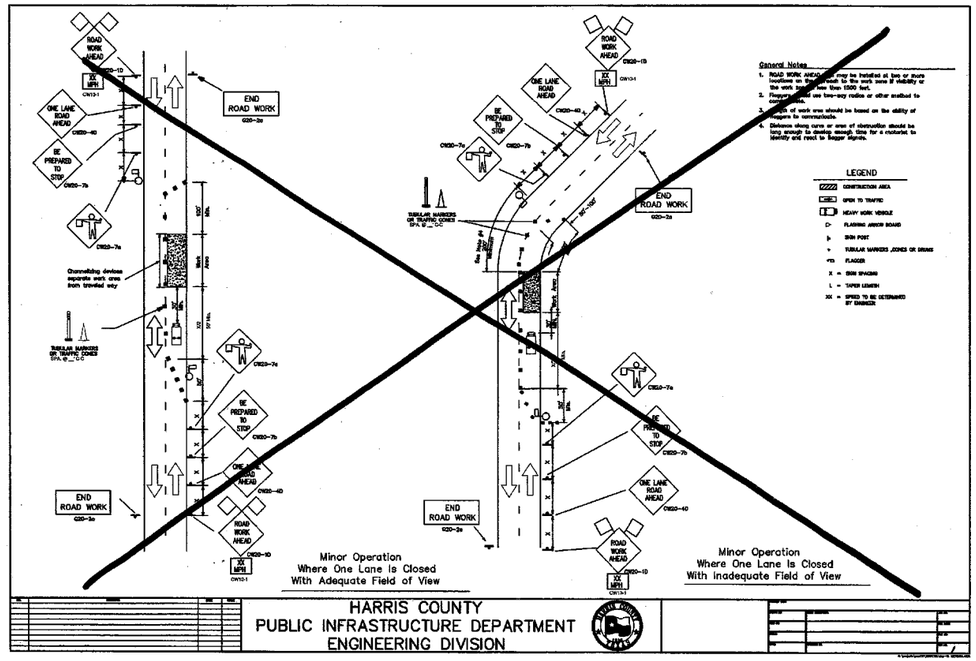
CINCO RANCH RECLAIMED WATER SYSTEM
CINCO MUNICIPAL UTILITY DISTRICT NO. 1
TRAFFIC CONTROL DETAILS (SHEET 1 OF 2)

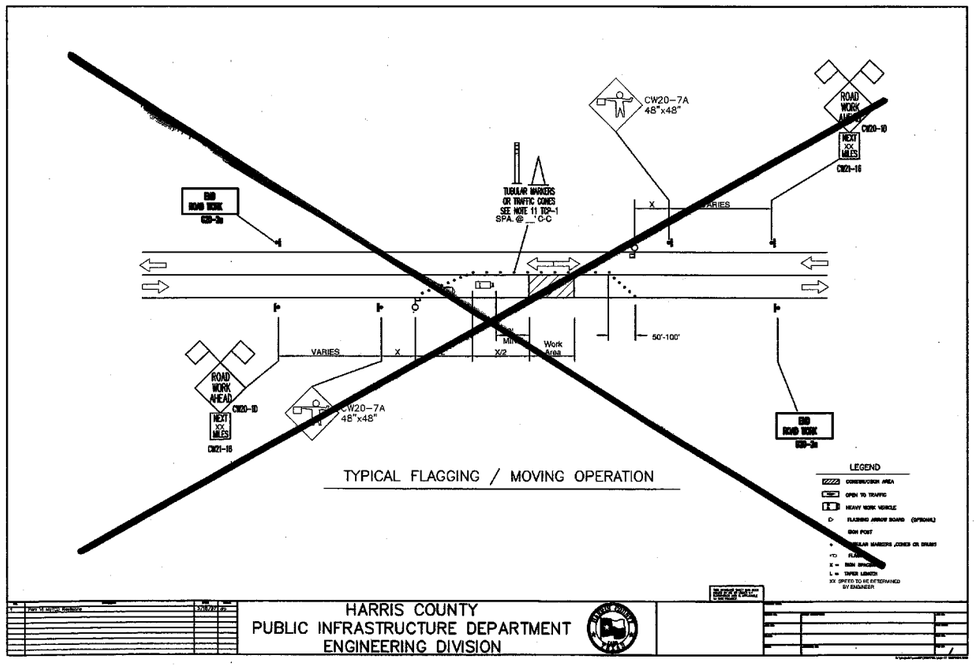
PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	LY–CV–DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 150 OF 154

PATH/FILENAME: L:\CINCO\LY–CV–DT.DWG
LAST UPDATE: Monday, N / 2012 8:41:36 AM
PLOT DATE: Monday, Nov / 2012 8:59:30 AM
ANSI D – 19–Nov–12







TRAFFIC CONTROL PLAN GENERAL NOTES

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5. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF TRAFFIC CONTROL PLAN DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT ALTERNATE PLANS* TO TRAFFIC SECTION OF HCPID FOR APPROVAL TEN (10) WORKING DAYS PRIOR TO IMPLEMENTATION.
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8. ALL ADVANCED WARNING SIGNS TO BE SET PRIOR TO START OF CONSTRUCTION ACTIVITIES AND TO REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND ACCEPTED BY HARRIS COUNTY. THE CONTRACTOR WILL COORDINATE WITH THE HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, ENGINEERING DIVISION IN ESTABLISHING TRAFFIC ROUTES AND LOCATION OF SIGNS.
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15. IF WORK ZONE IS NEEDED OVERNIGHT, ALL CONES OR TUBULAR MARKERS SHALL BE REPLACED WITH DRUMS A/VP'S AND TEMPORARY PAVEMENT MARKINGS SHALL BE PUT IN PLACE FOR NIGHTTIME OPERATION AS DIRECTED BY THE ENGINEER.
16. SIGN R20-3 IS REQUIRED IN ADVANCE OF PROJECT LIMITS.
17. ACCESS TO EXISTING BUSINESSES OR RESIDENCES SHALL BE MAINTAINED AT ALL TIMES.

VOID THIS SHEET

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: ASSISTANT TO THE COUNTY ENGINEER
DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & TRANSPORTATION
5-13-14	
WASTEWATER	STORM WATER QUALITY
4-25-14	
STORM	FACILITIES
4-25-14	5.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 151 OF 154

52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
2101 CITYWEST BLVD., SUITE 101, WEST HOUSTON, TX 77042-3051
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194689, CONTRACT NO. 1

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

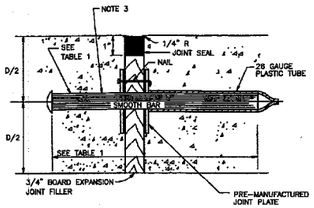
CINCO RANCH RECLAIMED WATER SYSTEM

TRAFFIC CONTROL DETAILS (SHEET 2 OF 2)

PROJECT NO:	60194689 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 151 OF 154

PATH/FILENAME: L:\CINCO\LY-CV-DT.DWG
LAST UPDATE: Monday, Nov 19, 2012 8:41:38 AM
PLOT DATE: Monday, Nov 19, 2012 8:59:31 AM
ANSI D - 19-Nov-12



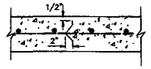
SECTION

DOWEL TYPE EXPANSION JOINT

NTS

TABLE 1

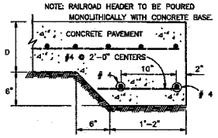
PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12



SECTION

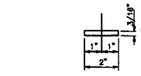
DEFORMED METAL STRIP

NTS



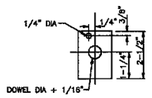
STANDARD CONCRETE RAILROAD HEADER

NTS



PLAN – JOINT PLATE

NTS

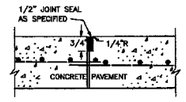


ELEVATION – JOINT PLATE

NTS

NOTES:

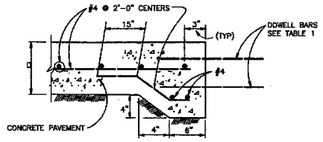
1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED ON 12" CENTERS.
2. CENTER DOWEL HORIZONTALLY ON JOINT.
3. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
4. THE LOCATION OF CONSTRUCTION JOINTS AND DEFORMED METAL STRIPS MAY BE VARIED WITH THE APPROVAL OF THE COUNTY ENGINEER.



SECTION

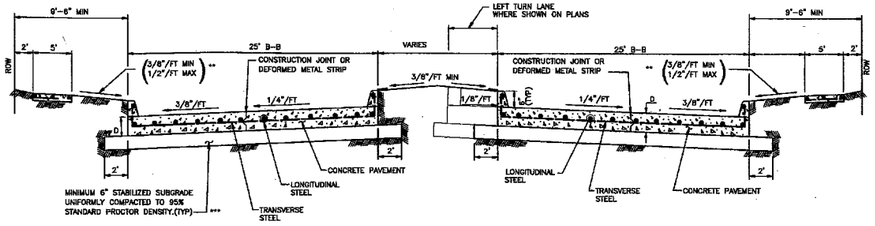
CONSTRUCTION JOINT SEAL

NTS



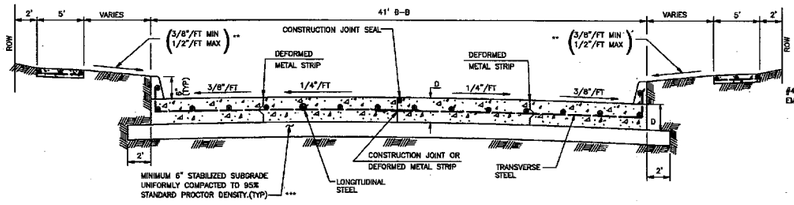
STANDARD CONCRETE PAVING HEADER

NTS



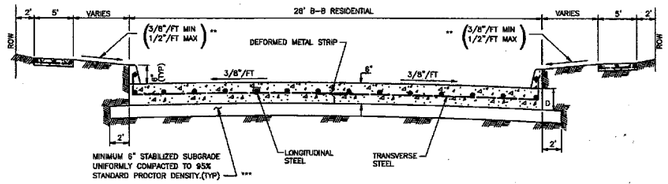
TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

NTS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

NTS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

NTS

NOTES:

1. THE LOCATION OF CONSTRUCTION JOINTS AND DEFORMED METAL STRIPS MAY BE VARIED, WITH THE APPROVAL OF THE COUNTY ENGINEER, TO SUIT THE PROPOSED CONSTRUCTION METHODS OF THE CONTRACTOR. THE MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'-0".
** 2. THIS SLOPE MAY BE VARIED AT THE DISCRETION OF THE COUNTY ENGINEER TO MEET CERTAIN EXISTING FIELD CONDITIONS.

TABLE 2

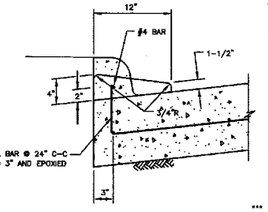
REINFORCING STEEL BAR SIZES AND SPACING FOR VARIOUS PAVEMENT THICKNESSES (D) WITH: MAXIMUM EXPANSION JOINT SPACING = 80 FT f'_c = 3,000 PSI AND f_y = 60,000 PSI

PAVEMENT THICKNESS D (IN)	PAVEMENT WIDTH (FT)	LONGITUDINAL STEEL								TRANSVERSE STEEL		
		#4 BARS			#5 BARS			#6 BARS				
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	#4 BARS SPACING (IN)	#5 BARS SPACING (IN)	#6 BARS SPACING (IN)
6	28	17	20.50	4	–	–	–	–	–	–	36	–	–
7	25	17	18.25	4	–	–	–	–	–	–	36	–	–
7	41	28	18.00	3	–	–	–	–	–	–	36	–	–
8	25	20	15.50	2.75	13	24.50	3	–	–	–	36	36	–
10	25	24	12.75	3.5	17	18.25	4	–	–	–	36	36	36

MAXIMUM LAP LENGTHS (L):
A. # 4 BARS; L = 22 INCHES
B. # 5 BARS; L = 27 INCHES
C. # 6 BARS; L = 32 INCHES

NOTES:

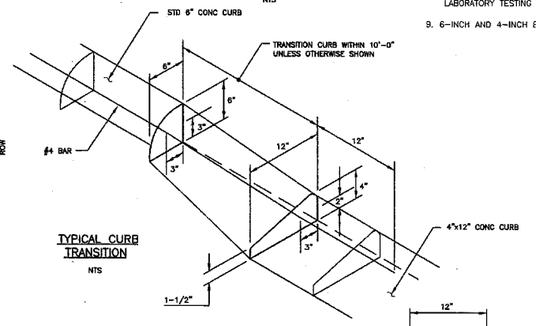
1. ALL CONCRETE PAVEMENT, REGARDLESS OF THICKNESS TO BE 5.50 SACK MIX, WITH 500 PSI FLEXURAL STRENGTH AT 7-DAYS, ALSO COMPLYING WITH 3,500 PSI IN 28 DAYS.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. PROVIDE MINIMUM LAP OF 30 BAR DIAMETERS.
3. WHERE PROPOSED PAVEMENT IS TO MATCH EXISTING PAVEMENT, EXISTING REBARS OR DOWELS PROJECTING FROM EXISTING PAVEMENT SHALL BE CLEANED AND TIED INTO PROPOSED PAVEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE NO. 6 BARS; 24-INCHES LONG, DRILLED AND EMBEDDED 8-INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL AT 18-INCHES CENTER TO CENTER. REMOVE EXISTING BARRICADES.
4. WHERE PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT, EXTEND REBARS 15-INCHES, COAT WITH ASPHALT AND WRAP WITH BURLAP. AT EXPANSION JOINTS, EXTEND DOWELS 9-INCHES, COAT AND WRAP SAME AS CONSTRUCTION JOINT.
5. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADIUS RETURNS AND AT MAXIMUM SPACING OF 80-FOOT INTERVALS. DO NOT LOCATE TRANSVERSE EXPANSION JOINTS WITHIN DEPRESSIONS FOR INLETS.
6. MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'.
*** 7. ALL SUBGRADE SHALL BE STABILIZED UNLESS GEOTECHNICAL INVESTIGATIONS SHOW THAT STABILIZATION IS NOT REQUIRED. CONTRACTOR SHALL OBTAIN APPROVAL OF FORT BEND COUNTY ENGINEER AND OWNER PRIOR TO DELETING STABILIZATION OF SUBGRADE.
8. IF SUBGRADE STABILIZATION IS REQUIRED, APPLICATION SHALL BE AT THE RATE DETERMINED BY LABORATORY TESTING OF THE SUBGRADE MATERIAL.
9. 6-INCH AND 4-INCH BY 12-INCH CURBS (WHERE APPLICABLE) SHALL BE 5.5 SACK MIX.



TYPICAL DETAIL

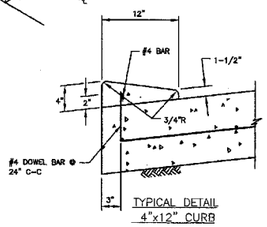
4"x12" TRANSITION CURB

NTS



TYPICAL CURB TRANSITION

NTS



TYPICAL DETAIL

4"x12" CURB

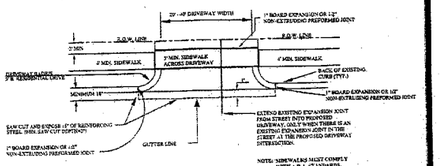
NTS

4"X12" MONOLITHIC AND TRANSITION CURB NOTES:

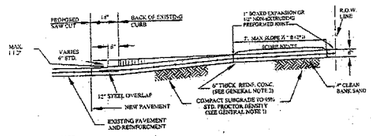
1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH X 12-INCH CONCRETE CURB AS NOTED ON PLANS.
2. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH X 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF EXPOSED, TRANSITION CURB IS NOT REQUIRED MONOLITHICALLY WITH CONCRETE PAVEMENT; THE TRANSITION CURB IS SHOWN IN TYPICAL DETAIL 4"x12" CURB. 4-INCH X 12-INCH TRANSITION CURB IS TO BE INSTALLED.

WHEN A RESIDENTIAL SIDEWALK, DRIVEWAY, CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURB TYPE STREETS, USE SECTIONS APPLICABLE.

A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS (PLAN VIEW NOT TO SCALE)



B. USE FOR ALL PROPOSED DRIVES ON CURBED TYPE STREETS



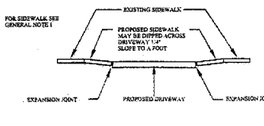
GENERAL NOTES:

1. CONTRACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO R.O.W. LINE, COMPACT TO 95% OF STANDARD PROCTOR DENSITY(+/- 2 % OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
2. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM A615, GRADE 60, UNLESS NOTED SPACED AT 24" C-C, EACH WAY, WITH 12" MINIMUM LAP FROM PROPOSED SAW CUT TO R.O.W. LINE.
3. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 ½ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 02001-4 ½" THICK).
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 ½ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 02001-4 ½" THICK).

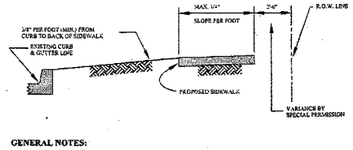
DRIVEWAYS ON CURB TYPE STREETS RESIDENTIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: R. GOMEZ DATE REVISED: 11-1-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-010A
FORT BEND COUNTY ENGINEERING DEPARTMENT		

WHEN A RESIDENTIAL SIDEWALK, DRIVEWAY, CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURBED TYPE STREETS, USE SECTIONS APPLICABLE.

C. USE WHEN PROPOSED DRIVEWAY IS TO BE BUILT WITH EXISTING SIDEWALKS WITH EXCESSIVE GRADE:



D. USE WHEN SIDEWALK TO BE BUILT OTHER THAN DRIVEWAY:



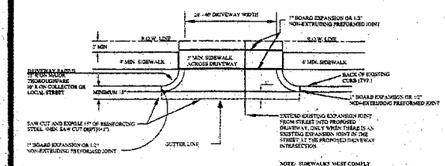
GENERAL NOTES:

1. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 ½ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 02001-4 ½" THICK) AND MINIMUM 4' WIDTH.

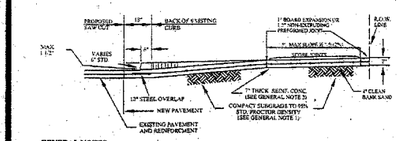
SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS RESIDENTIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: R. GOMEZ DATE REVISED: 11-1-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-010B
FORT BEND COUNTY ENGINEERING DEPARTMENT		

WHEN A COMMERCIAL SIDEWALK, DRIVEWAY, CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURB TYPE STREETS. USE SECTIONS APPLICABLE.

A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS (PLAN VIEW NOT TO SCALE)



B. USE FOR ALL PROPOSED DRIVES ON CURBED TYPE STREETS



GENERAL NOTES:

1. CONTRACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO R.O.W. LINE, COMPACT TO 95% OF STANDARD PROCTOR DENSITY(+/- 2 % OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
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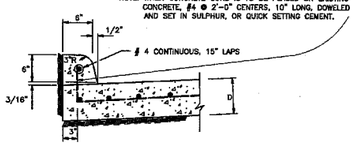
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 ½ SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 02001-4 ½" THICK).

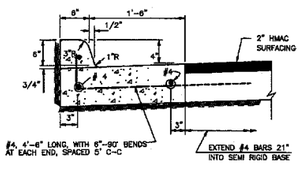
DRIVEWAYS ON CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: R. GOMEZ DATE REVISED: 11-1-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025A
FORT BEND COUNTY ENGINEERING DEPARTMENT		



NOTE: FINISH TO BE ACCOMPLISHED BY FLOATING, STEEL TROWELLING AND THEN BRUSHING. HAND FINISH NOT REQUIRED WHEN CURB IS POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS, AND HAVE A BRUSHED FINISH.

CONCRETE CURB

NTS



NOTE: FINISH TO BE ACCOMPLISHED BY FLOATING, STEEL TROWELLING AND THEN BRUSHING. HAND FINISH NOT REQUIRED WHEN CURB AND GUTTER IS POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS, AND HAVE A BRUSHED FINISH.

MONOLITHIC CONCRETE CURB AND GUTTER

NTS

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	12-12-13	TRAFFIC & TRANSPORTATION	
WASTEWATER	4-8-14	STORM WATER QUALITY	
STORM	4.15.14	FACILITIES	4.3.14
STREET & BRIDGE			

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY, SUITE 101 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED
PROFESSIONAL ENGINEER
5/16/14

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

STANDARD PAVEMENT DETAILS

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

FILE NO: 2011-1040

DRAWING SCALE

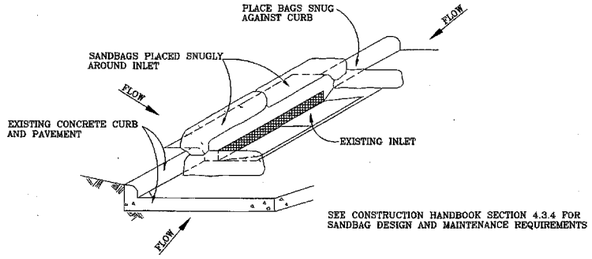
HORZ : NTS
VERT :

SHEET No: 152 OF 154

STATE OF TEXAS
52149
CITY DRAWING NUMBER
HOUSTON, TEXAS

SHEET 152 OF 154

PATH/FILENAME: L:\CIVIL\...\DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, Nov... 2012 8:41:38 AM
PLOT DATE: Monday, Nov... 2012 8:59:36 AM
ANSI D – 19-Nov-12



SEE CONSTRUCTION HANDBOOK SECTION 4.3.4 FOR SANDBAG DESIGN AND MAINTENANCE REQUIREMENTS

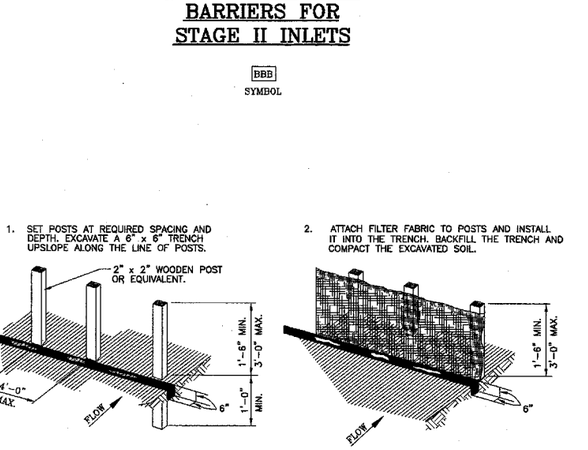
GENERAL NOTES:

1. BAGS OR WATTLES CAN BE USED FOR THIS APPLICATION.
2. PROVIDE WOVEN OR UNWOVEN GEOTEXTILE FILTER FABRIC FOR BAGS.
3. PROVIDE COARSE SAND AND AGGREGATE MIX FOR FILL MATERIAL FOR BAGS. USE ONLY PARTICLES CONSISTING OF CLEAN, HARD, DURABLE MATERIALS FREE FROM ADHERENT COATINGS, SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, OR ORGANIC AND INJURIOUS MATTER.
4. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.

INLET PROTECTION BARRIERS FOR STAGE II INLETS

BBB

SYMBOL



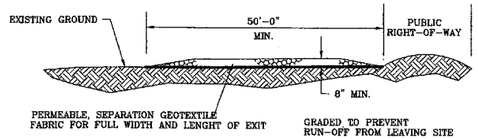
GENERAL NOTES:

1. SET POSTS AT 4-FEET MAXIMUM SPACING. IF FACTORY PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT THE POST, FOLD TOGETHER, AND ATTACH TO A POST.
3. REMOVE SEDIMENT DEPOSITS WHEN SILT DEPTH REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE.
4. SECURELY FATSEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
5. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.

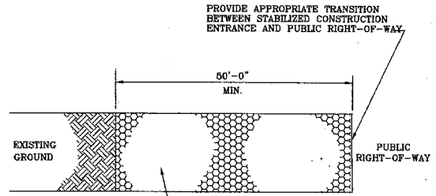
FILTER FABRIC FENCE

× RFB ×

SYMBOL



PROFILE



PLAN VIEW

GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. ALTERNATIVE METHODS OF CONSTRUCTION INCLUDE
   -CEMENT STABILIZED SOIL: COMPACTED CEMENT STABILIZED SOIL, LIMESTONE AGGREGATE, OR OTHER FILL MATERIAL IN AN APPLICATION OF THICKNESS OF 8 INCHES.
   -WOOD MATS: OAK OR OTHER HARDWOOD TIMBERS PLACED EDGE TO EDGE AND ACROSS SUPPORT WOODEN BEAMS WHICH ARE PLACED ON TOP OF EXISTING SOIL IN AN APPLICATION THICKNESS OF 6 INCHES.
   -STEEL MATS: PERFORATED MATS PLACED ACROSS PERPENDICULAR SUPPORT MEMBERS.

STABILIZED CONSTRUCTION ACCESS

SC

SYMBOL

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED _____ ASSISTANT TO THE COUNTY ENGINEER

DATE 5/16/14

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 12-18-13	TRAFFIC & TRANSPORTATION
WASTEWATER 4-8-14	STORM WATER QUALITY
STORM 4.15.14	FACILITIES Vand Arch 4.3.14
STREET & BRIDGE	

FILE NO: 2011-1040

DRAWING SCALE

HORZ : NTS
VERT :

SHEET No: 153 OF 154

52149 CITY DRAWING NUMBER HOUSTON TEXAS

NO.	DATE	MADE BY	APPROVED	DESCRIPTION
				REVISIONS

AECOM TECHNICAL SERVICES, INC.
5757 WOODWAY SUITE 100 WEST
HOUSTON, TEXAS 77057-1599
WWW.AECOM.COM
TBPE REG. NO. F-3580

PROJECT NO. 60194669, CONTRACT NO. 1

STATE OF TEXAS
DAN EDWARDS
85443
LICENSED PROFESSIONAL ENGINEER
11/20/12

CINCO MUNICIPAL UTILITY DISTRICT NO. 1

CINCO RANCH RECLAIMED WATER SYSTEM

STORM WATER POLLUTION PREVENTION PLAN DETAILS

PROJECT NO:	60194669 (WSD)
CAD DWG FILE:	LY-CV-DT
DESIGNED BY:	DE
DRAWN BY:	JE
DEPT CHECK:	
PROJ CHECK:	
DATE:	NOV 2011
SCALE:	NTS

SHEET 153 OF 154

PATH/FILENAME: L:\CINC\ \DWG\LY-CV-DT.DWG
LAST UPDATE: Monday, N , 2012 8:41:38 AM
PLOT DATE: Monday, Nove , 2012 8:58:28 AM

ANSI D - 19-Nov-12

1. PAVING

I. DESIGN THICKNESS OF PAVING _____
II. STABILIZED SUBGRADE TO A DEPTH OF _____
III. DESIGN STRENGTH OF CONCRETE _____ psi
IV. TYPE AND PLACEMENT OF STEEL: _____

DRIVEWAYS

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED: _____
II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET _____

FIRE APPARATUS ACCESS ROAD

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED DUE TO _____

CURBING

I. ISLANDS AND MEDIANS REQUIRE STANDARD 6" CURBING
II. ☐ STANDARD 6" CURBING PROPOSED
☐ 4" x 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

I. MEDIAN CUTS
☒ NO MEDIAN CUT OR RELOCATION IS PROPOSED
☐ MEDIAN MODIFICATIONS ARE SHOWN ON SHEET _____

II. LEFT / RIGHT TURN LANE
☒ NO LEFT / RIGHT TURN LANE IS PROPOSED
☐ LEFT / RIGHT TURN LANE IS SHOWN ON SHEET _____

III. TRAFFIC CONTROL PLAN
☒ NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW
☐ TRAFFIC CONTROL SHOWN ON SHEET _____

IV. TRAFFIC SIGNAL
☒ NO TRAFFIC SIGNAL IS EXISTING / PROPOSED
☐ EXISTING TRAFFIC SIGNAL DEVICES (T.C. BOXES AND LOOPS) SHOWN ON SHEET _____
☐ PROPOSED TRAFFIC SIGNAL (BY OTHERS)

V. TRAFFIC IMPACT ANALYSIS
☒ NO TRAFFIC IMPACT ANALYSIS IS REQUIRED
☐ TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE: _____

2. RESIDENTIAL / SUBDIVISION DRAINAGE

I. DRAINAGE SYSTEM TYPE
☐ STORM SEWER
☐ ROADSIDE DITCH

II. DESIGN METHOD USED
☐ CITY OF HOUSTON _____ FREQUENCY
☐ OTHER _____

III. DRAINAGE SYSTEM OUTFALL
☐ TO DETENTION POND
☐ DETENTION POND MAINTAINED BY _____
☐ TO HCFCD DRAINAGE DITCH UNIT NO. _____
☐ TO HARRIS COUNTY ROADSIDE DITCH
ROAD NAME: _____
☐ STATIC W.S.E. @ OUTFALL IS _____.
☐ PROPOSED STORM SEWER IS SUBMERGED.

IV STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
ACTUAL OUTFALL RATE: _____ (CFS)

V. DRAINAGE SYSTEM FLOW RATE
FLOW PRIOR TO DETENTION: _____ CFS
FLOW AFTER DETENTION (IF REQUIRED): _____ CFS

3. COMMERCIAL / OTHER SITE DRAINAGE

I. PROPOSED DRAINAGE AREA
☐ NEW DEVELOPMENT AREA: _____
☒ RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____

II. DETENTION VOLUME
NEW AREA _____ X _____ * = _____ ACRE FEET
DETENTION REQUIRED
* ☐ .55
* ☐ .65
* ☐ 1.00
* ☐ OTHER: _____
PROPOSED VOLUME = _____ ACRE FEET

III. OUTFALL
OUTFALL TO ☐ H.C. ROADSIDE DITCH
☐ EXISTING H.C. STORM SEWER
☐ OTHER _____
ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE: 0.0027 x _____ LF Frontage = _____ (CFS)
PROPOSED OUTFALL RATE: _____
☐ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
ACTUAL OUTFALL RATE: _____ (CFS)

IV. PUMPED DETENTION FACILITIES
VOLUME THAT GRAVITY FLOWS: _____ ACRE FEET
VOLUME THAT IS PUMPED: _____ ACRE FEET
ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: _____
PUMP SPECIFICATIONS AND OPERATING PLAN APPEAR ON SHEET _____

V. FLOW RESTRICTOR SIZE
OUTFALL PIPE SIZE: _____
RESTRICTOR PIPE SIZE: _____

4. WATER AND WASTEWATER

I. TYPE OF SERVICE PROPOSED
☐ MUNICIPALITY: _____
☒ MUNICIPAL UTILITY DISTRICT: CINCO MUD NO. 1
☐ OTHER DISTRICT: _____
☐ PRIVATE WATER AND WASTEWATER SYSTEMS
☐ PRIVATE WATER SYSTEM AND INDIVIDUAL OSSF
☐ INDIVIDUAL WATER WELL AND OSSF
☐ OTHER: _____
H.C. WASTE WATER PERMIT/REQUEST NO. _____

II. PROOF OF CAPACITY
☒ LETTER FROM DISTRICT AUTHORIZING SERVICE AND CONNECTION
☐ TCEQ APPROVAL FOR WATER SYSTEM AND PERMIT FOR WASTEWATER SYSTEM.
☐ OSSF SUBDIVISION PLANNING REPORT

III. AMOUNT OF FLOW
☐ RESIDENTIAL: _____ LOTS OR UNITS
☐ COMMERCIAL: _____ AVERAGE DAILY FLOW
☐ OTHER: _____

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE FOR ALL PROJECTS.
III. COMPLETE ONLY IF TCEQ DISCHARGE PERMIT IS PROPOSED

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION
A. ACREAGE: _____
B. ☒ SUBDIVISION: GREENWAY VILLAGE SECTION FIVE
NORTHLAKE VILLAGE SECTION NINE
☐ SURVEY & ABSTRACT: _____
C. ADJACENT ROADS: WESTHEIMER PKWY, SOUTH PEEK RD, HIGHLAND KNOLLS

II. PLATTING
A. SUBDIVISION PLAT
☐ PROPOSED PLAT / REPLAT
☐ RECORDED PLAT / REPLAT
PLAT NAME: _____
PLAT NUMBER _____
☒ NO PLAT REQUIRED
B. STREETS PROPOSED
☐ PUBLIC
☐ PRIVATE
☐ PUBLIC & PRIVATE
☒ NONE

III. JURISDICTIONS
* ☐ CITY OF HOUSTON
☐ CITY OF _____
* ☒ ETJ, CITY OF HOUSTON
☐ ETJ, CITY OF _____
☐ NO ETJ

IV. HCAD ACCOUNT NOS. (ALL)
120-116-001-0001

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)
☐ REQUIRED AND SHOWN ON SHEET(S) _____
☒ NOT REQUIRED
KEY MAP® page(s) 485
* CPC 101 FORM MAY BE REQUIRED

6. STORM WATER QUALITY

I. CONSTRUCTION PROTECTIVE MEASURES.
☒ SWPPP SITE PLAN AND DETAILS ON SHEET(S) 12-17 & 153 OF 154

II. APPLICABILITY FOR PERMANENT FEATURES.
☐ EXEMPT NEW DEVELOPMENT OF LESS THAN 5 ACRE PARCEL.
☒ EXEMPT REDEVELOPMENT OF A 5 ACRE OR LARGER PARCEL WHERE TOTAL IMPERVIOUS SURFACE (EXISTING PLUS PROPOSED) IS LESS THAN 1 ACRE.
☒ EXEMPT "GRAND FATHERED" BY AN EXISTING STORM SEWER LINE.
☐ STORM WATER QUALITY PERMIT REQUIREMENT FOR THIS PROJECT IS COVERED BY _____**.
☐ "STORM WATER QUALITY MANAGEMENT PLAN" INCLUDED. SWQMP SITE PLAN ON SHEET(S) _____

III. PERMANENT STORM WATER QUALITY FEATURES.
☐ VEGETATIVE CONTROLS USED: (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ HYDRODYNAMIC TYPE SEPARATOR MODEL: _____
☐ OTHER(S): _____

NOTES:
I – II REQUIRED ON ALL PROJECTS, III IF NOT EXEMPT OR "GRANDFATHERED"
** INCLUDE: PROJECT TITLE, HARRIS COUNTY PROJECT NUMBER, AND SWQ PERMIT NUMBER, OR THE NAME OF THE PERMITTING AUTHORITY IF OTHER THAN HARRIS COUNTY.

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE

DETENTION BASIN DRAINAGE AREA = _____ ACRES MAX BASIN DRAIN TIME (100-YR EVENT) = _____ HOURS

RAINFALL EVENT PROBABILITY	PRE-DEVELOPED PEAK RUNOFF (CFS)	POST-DEVELOPED PEAK RUNOFF (CFS)	DETENTION BASIN PEAK OUTFLOW (CFS)	MAXIMUM WATER SURFACE ELEVATION	PEAK STORAGE VOLUME (AC-FT)	STORAGE RATE (AC-FT PER AC)
10% EXCEEDANCE (10-YEAR)						
1% EXCEEDANCE (100-YEAR)						

ADDITIONAL CRITERIA FOR PUMPED DETENTION BASINS:
VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = _____AC-FT _____% OF TOTAL VOLUME
MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = _____FT/SEC.
DRAIN TIME FOR BASIN = _____ HOURS BASED ON _____ HEAD CONDITIONS.

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE _____
REPORT DATE _____ ENGINEERING FIRM _____
DATE OF ACKNOWLEDGEMENT BY HCFCD OR FLOODPLAIN ADMINISTRATOR _____ HCFCD PROJECT # _____

STORMWATER DETENTION FOR THE PROPOSED WORK CONTAINED IN THESE PLANS IS PROVIDED BY OTHER PLANS:
PLAN TITLE _____
ENGINEERING FIRM _____ DATE SIGNED BY HCFCD _____ HCFCD PROJECT # _____

II. HCFCD STANDARD NOTES: SEE SHEET _____ OF THESE PLANS.

III. HCFCD STANDARD DETAILS: SEE SHEET _____ OF THESE PLANS.

IV. REFER TO PLAN SHEETS _____ FOR EXISTING AND PROPOSED RIGHT OF WAY DELINEATION AND COMPLETE RECORDING INFORMATION TO INCLUDE CLERK'S FILE NUMBERS, TYPE OF ESTATE (e.g., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

NOTES:
I. COMPLETE ONLY IF HCFCD OR HARRIS COUNTY IS REQUIRING DETENTION.
II. COMPLETE ONLY IF PROJECT HAS WITHIN IT OR IS IMMEDIATELY ADJACENT TO AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
III. COMPLETE ONLY IF PROJECT INCLUDES NEW OUTFALL, BACKSLOPE INTERCEPTOR OR OTHER REGRADED WORK WITHIN AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL, OR DETENTION BASIN.
IV. COMPLETE ONLY IF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION
FIRM PANEL(S) FOR PROPERTY: 48201C605L, 48201C0595L
FIRM PANEL(S) DATE: JUNE 18, 2007
STATUS OF PROPERTY ON MAP
☒ ENTIRELY LOCATED IN UNSHADED ZONE "X"
☐ LOCATED PARTIALLY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO._____) (BASE FLOOD LEVEL_____)
☐ LOCATED ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", (INDICATE BASE FLOOD LEVEL_____)
☐ LOCATED IN THE 10-YEAR FLOODPLAIN
☐ LOCATED IN CYPRESS CREEK LOMR 08-06-2369P (INDICATE BASE FLOOD LEVEL_____)
☐ SITE REMOVED FROM FLOODPLAIN BY LOMA OR LOMR-F CASE NO._____
☐ OTHER

ELEVATION INFORMATION
BENCHMARK USED
☐ HARRIS COUNTY FLOODPLAIN REFERENCE MARK
☒ HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT (2001 ADJ.) HGCSD 67 - NAD 83 (2007), EL. 99.1, STAINLESS STEEL ROD DRIVEN INTO THE GROUND AND INSIDE A 1" PVC PIPE THAT IS 20' LONG FILLED WITH GREASE THAT IS ENCASED IN A 5" PVC PIPE WITH A LOGO CAP STAMPED ---HGCSD 67 1988---

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION
☐ PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X"
☐ PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL).
A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.): i.e., BELOW ELEVATION 0 (2001 ADJ.) 0 CUBIC YARDS
B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN: i.e., BELOW ELEVATION 0 (2001 ADJ.) 0 CUBIC YARDS
C. FILL AREA IN FLOODPLAIN IS SHOWN ON SHEET 0

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE ONLY IF PROJECT IS ADJACENT TO 100-YEAR FLOOD PLAIN

IV. ☐LOMR REQUIRED ☐CLOMR REQUIRED

VERIFIED BY: _____

FOR PROJECTS LOCATED IN ANY FLOODPLAIN:
Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management.
No net fill is allowed in the flood plain and no fill is allowed in the floodway.
FOUNDATION NOTES: (Applies to only buildings or building additions requiring a stem wall permit.)
All water heaters, furnaces, air conditioning units, electrical distribution panels, and any other mechanical or electrical equipment must be elevated in accordance with Section 4.05 of Harris County Floodplain regulations.
Any electrical circuit serving a light switch or outlet located below the base (100-year) flood elevation shall be dropped from above and be on a separate breaker.
All materials used below the (100-year) base flood elevation are an approved FEMA Technical Bulletin 2-93 as Class 5 water-resistant, and approved in accordance with FEMA Technical Bulletin 1-93 for floodwise openings.
If the property is located within the designated 100% floodplain or 500-year floodplain all construction up to twenty-four (24) inches above the base flood elevation must use masonry, concrete or steel. These materials must be used for piers, columns and foundation walls.
Construction of critical care facilities on land located below the base (100-year) flood elevation in the 500-year flood plain or within the base (100-year) flood plain shall have the lowest floor elevated to three feet or more above the base flood elevation.
Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.
Access routes elevated to or above the level of the base flood shall be provided to all critical facilities to the extent possible.
Consultant "Absentee Conditions to be submitted one at permitting, a second after the slab is poured for sub-floor is installed and before the framing starts, and a third is required once construction is finished. "(PER CURRENT FIRM PANEL) to the Harris County Public Infrastructure, Architecture and Engineering Division, 10555 Northwest Freeway, Suite 120, Houston, TX 77092
A completed as-built certificate must be submitted after the structure is complete and before it is occupied.
The County Engineer's Office will place a final inspection hold on the property once all requirements have been met.

9. WORK IN HCFCD RIGHT-OF-WAY

I. TYPE OF WORK TO BE PERFORMED IN CHANNEL
☐ OUTFALL
☐ UTILITY CROSSING
☐ ROADWAY BRIDGE / CULVERT CROSSING
☐ FILL ACTIVITY
☐ REHABILITATION OF CHANNEL
☐ MAINTENANCE
☐ TEMPORARY CROSSING
☐ OTHER

II. PERMIT
☐ US ARMY CORPS ENGINEERS NATIONWIDE PERMIT NUMBER(S) _____
☐ US ARMY CORPS OF ENGINEERS INDIVIDUAL PERMITS
☐ OTHER
☐ NO PERMITS REQUIRED
EXPLAIN: _____

III. REFERENCE / BASIS OF DETERMINATION
☐ ENVIRONMENTAL CONSULTANT REPORT
BY _____
REPORT TITLE _____
REPORT DATE _____
☒ OTHER _____

NOTES:
I. – III. REQUIRED ON PROJECTS WITH WORK IN A HCFCD CHANNEL. PLEASE REFERENCE SECTION 17 OF THE FLOOD CONTROL DISTRICT POLICY, CRITERIA, AND PROCEDURE MANUAL FOR MORE INFORMATION.

10. PERMITS REQUIRED

TOTAL ESTIMATED SITE CONSTRUCTION COST, (EXCLUDING ENCLOSED BUILDINGS/STRUCTURES) $8,700,000

☐ STORM WATER QUALITY
☐ PHASE II PERMIT CLASS I
☐ PHASE II PERMIT CLASS II ☐ CRITICAL FACILITY
☐ DRIVEWAY WITH CULVERT _____ CURB AND GUTTER _____
☐ SEPTIC (EXISTING) ☐ SEPTIC (PROPOSED)
☐ NOTICE OF DETENTION REQUIRED
☐ FILL AFFIDAVIT REQUIRED
☐ BUILDING PERMITS (NO. OF BUILDINGS = _____)
☐ SUBDIVISION INFRASTRUCTURE PHASE II (NO. OF LOTS = _____)
NOTES: PROP 12" WATER LINE INSTALLATION IN STREET ROW

WORK IN HARRIS COUNTY R.O.W.
☒ UTILITY RECLAIMED WATER LINE
☐ CONSTRUCTION _____
☐ OTHER _____

11 CURB RAMPS / SIDEWALK

CURB RAMPS PROPOSED ☐ YES ☒ NO
SIDEWALKS PROPOSED ☒ NO
A. HOME BUILDER ☐ YES
B. DEVELOPER ☐ YES
C. H.O.A. ☐ YES
D. OTHERS _____

12 LANDSCAPING

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☒ NOT REQUIRED

NOTES:
A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE.
A NOTIFICATION IS REQUIRED FOR EACH SCOPE OF WORK IN HC OR HCFCD ROW. REFER TO www.eng.hctx.net/permits FOR EACH SCOPE OF WORK IN HC OR IN HCFCD ROW.

HCPID SIGNATURE BLOCK

PROJECT NAME:
CINCO RANCH RECLAIMED WATER SYSTEM

ADDRESS: _____

WAS ACCEPTED BY THE FOLLOWING GROUPS FOR THE PURPOSES LISTED BELOW:

ENGINEERING DIVISION

BY _____ INTERPOSE NO OBJECTION DATE _____
BY _____ AS TO PAVING AND/OR DRAINAGE ONLY DATE _____
greg.kohnen@hctx.net
BY _____ AS TO LOCATION OF ITEMS IN COUNTY RIGHT OF WAY DATE _____
BY No PSWQF REQUIRED AS TO STORM WATER QUALITY 10/6/2014 DATE

ADDITIONAL COMMENTS:

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION
BY _____ FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY DATE _____
APPROVED:
BY _____ FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY DATE _____
APPROVED:
BY _____ FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY DATE _____

ADDITIONAL COMMENTS:

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH APPROPRIATE FEDERAL, STATE AND LOCAL ENVIRONMENTAL RULES, LAWS, AND REGULATIONS AND ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. THESE SIGNATURES ARE VALID FOR A MAXIMUM OF TWO YEARS.

ENGINEER'S CERTIFICATION

I, DAN EDWARDS, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS 1 THRU 154.

SIGNATURE _____ DATE _____

SEAL: STATE OF TEXAS — DAN EDWARDS — 85443 — LICENSED PROFESSIONAL ENGINEER — 01/21/12

REVISIONS

DATE	SHEET NO.	DESCRIPTION	P.E. INITIAL	H.C. APPROVED DATE
		NOH 5/16/14		

CINCO MUNICIPAL UTILITY DISTRICT NO. #1
CINCO RANCH RECLAIMED WATER SYSTEM

PROJECT NO. 2016212 | SHEET NUMBER 154 OF 154

HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT
EXPRESS REVIEW SHEET

VERSION 12.1 May 26, 2011